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# Academic accommodations, social supports, and academic self-efficacy: predictors of academic success for postsecondary students with disabilities

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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

ACADEMIC ACCOMMODATIONS, SOCIAL SUPPORTS,  
AND ACADEMIC SELF-EFFICACY: PREDICTORS OF  
ACADEMIC SUCCESS FOR POSTSECONDARY  
STUDENTS WITH DISABILITIES

A Dissertation Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy

Stefanie Marie Howe

College of Natural and Health Sciences  
School of Human Sciences  
Human Rehabilitation

May 2013

This Dissertation by: Stefanie Marie Howe

Entitled: *Academic Accommodations, Social Supports, and Academic Self-Efficacy:  
Predictors of Academic Success for Postsecondary Students with Disabilities*

has been approved as meeting the requirements for the Degree of Doctor of Philosophy in  
College of Natural and Health Sciences in School of Human Sciences, Program of  
Human Rehabilitation

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## ABSTRACT

Howe, Stefanie Marie. *Academic Accommodations, Social Supports, and Academic Self-Efficacy: Predictors of Academic Success for Postsecondary Students with Disabilities*. Published Doctor of Philosophy dissertation, University of Northern Colorado, 2013.

Although the *Rehabilitation Act of 1973* and the *Americans with Disabilities Act of 1990* have mandated the necessity of services for students with disabilities to receive equal access to education, a clear picture of what contributes to academic success is still lacking. Research indicates that students with disabilities face academic difficulties due to lack of social support, lack of confidence, or poor quality of services. Therefore, the current study examined whether: (a) academic success was related to academic self-efficacy; (b) academic success was related to academic accommodation use; (c) academic success was related to social support use; (d) academic accommodation use, social support use, disability group, or academic self-efficacy predicted academic success; and (e) the variables of academic accommodations, social support use, academic self-efficacy, or academic success differed among disability groups. The data from this study may increase the knowledge of disability office staff in regards to helpful services and supports that can increase retention and graduation rates of students with disabilities. In addition, students with disabilities may be better advised on what factors can contribute to their academic success.

Participants were 110 students with disabilities registered with their school disability service office and receiving accommodations. A majority of the sample was made up of sophomores (32.7%) and seniors (30.0%). Additionally, most of the sample indicated having a learning disability (62.7%). Participant grade point averages ranged from 1.8 to 4.0, with most students (37.3%) having a grade point average of 3.6 or higher.

Data illustrated that the relationship between academic success and academic self-efficacy ( $r = .416$ ) had a significant positive correlation and the relationship between academic success and use of social support ( $r = -.178$ ) had no significant relationship at the  $p < 0.01$  level. In addition, academic success was found to have a significant positive correlation with utilization of academic accommodations ( $r = .235$ ) at the  $p < 0.05$  level. Moreover, academic self-efficacy ( $p = .001$ ) was the only variable that significantly predicted academic success. Lastly, academic accommodation use, social support use, academic self-efficacy, and academic success were not found to differ significantly between disability groups.

Future researchers may seek to examine the same variables in a qualitative study, thus providing a clear picture of what students with disabilities find useful about each service and support they are currently receiving or have received. Additionally, future research could compare services and supports for students with disabilities on academic probation and those that are not. Moreover, research could examine students with disabilities not registered with the disability office at their school in order to understand their feelings and thoughts regarding services and supports as well as potential barriers to use.

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This dissertation is dedicated to my wonderful husband, Don, for his understanding and patience on those days and nights that I spent time with my computer instead of with him. His confidence in me gave me the motivation to persevere and accomplish this life goal. I love you. My parents also deserve recognition as I could not have achieved all that I have without their belief in my ability to leave the nest and soar. Mom, thanks for being an eternal optimist and my head cheerleader. Dad, I finally finished school and became a doctor (of philosophy)!

I would also like to thank the school disability offices staff in this study for allowing access to their students. Without your help and the help of the students who volunteered to participate, my study would not have been possible.

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## CHAPTER I

### INTRODUCTION

In today's society, education can be a gateway to work opportunities and improved quality of life (Mamiseishvili & Koch, 2011). For individuals with disabilities, there is no difference. An education can improve chances for employment and independence, which may be the reason for the increasing number of individuals with disabilities pursuing postsecondary education (Hall & Belch, 2000; Mamiseishvili & Koch, 2011). Data from the National Center for Education Statistics (NCES) in 2008 shows that 10.8% of the postsecondary undergraduate population reported a disability, and 88% of two- and four-year postsecondary institutions reported enrolling students with disabilities. To further clarify, one-third of disabilities reported by postsecondary students with disabilities were learning disabilities, 18% were attention deficit disorder, 15% were mental illness or psychiatric conditions, and 11% were health impairments including chronic conditions (Raue & Lewis, 2011).

Increased enrollment in postsecondary institutions is largely due to the role of legislative bodies granting students with disabilities certain educational rights. In 1973 the *Rehabilitation Act of 1973* (the Rehabilitation Act) was passed, and *Section 504*, specifically, noted that a qualified person with a disability could not be denied participation in, benefits of, or discriminated against in programs and activities receiving federal financial assistance (Thomas, 2000). In an educational setting, a qualified

individual is someone that can meet admission and academic standards with or without reasonable accommodations (Hawke, 2004).

The *Americans with Disabilities Act of 1990* (ADA) further specified rights for students with disabilities in postsecondary education. The ADA goes beyond what is covered by *Section 504* of the Rehabilitation Act to include private institutions and those not receiving federal funding (Thomas, 2000). The ADA provides a definition of an individual with a disability as “a person who: (1) has a physical or mental impairment that substantially limits one or more major life activities; OR (2) has a record of such an impairment; OR (3) is regarded as having such an impairment” (42 U.S.C. § 12102(2)).

Under the ADA and *Section 504*, it is the student’s responsibility to provide documentation of a disability to a postsecondary institution and request accommodations (Thomas, 2000). In return, the institution is responsible for providing reasonable accommodations to the student that allows equal access to educational opportunities. Examples of such accommodations are extended time for tests, interpreters, and assistive technology (Stodden, Whelley, Chang, & Harding, 2001). Reasonable accommodations are provided as long as they do not give unfair advantage, fundamentally alter the program, or cause undue hardship to the institution (Thomas, 2000).

Postsecondary institutions have increased their ability to provide accommodations (Sharpe & Johnson, 2001). Many schools have a disability service office that works with a student to identify helpful accommodations that facilitate their access to an education (McCleary-Jones, 2008). Research indicates that students who are aware of their responsibilities and access the disability service office are more likely to be successful in their academic pursuits (McCleary-Jones, 2008; Tagayuna, Stodden, Chang, Zeleznik, &

Whelley, 2005). Accommodation availability can vary from state to state and school to school (Rehfuss & Quillin, 2005). Recent data does highlight typical accommodations, and reports from NCES indicate that 93% of postsecondary institutions give the accommodation of extra exam time, 77% provide note takers, 72% have faculty that provide course notes, 71% report alternative exam formats, and 70% of schools report adaptive equipment and assistive technology (Raue & Lewis, 2011). Although these are accommodations that are used most often and are seen as helpful to different disability groups, it is important that the institution look at the individual, the disability, and the severity of the disability when determining educational supports (Stodden et al., 2001). Students are more likely to succeed with accommodation use when the support is specific to the individual need (Stodden et al., 2001).

A less-formal service that is useful to students with disabilities in postsecondary education is social support from others. Encouragement from others assists with adjustment, increases the chance for success, and improves the student's self-efficacy (Lundberg, McIntire, & Creasman, 2008). For many students, social supports are already established upon entering postsecondary institutions (Lundberg et al., 2008). Students look to friends and family to show interest and understanding about their educational pursuits (DeWitz, Woolsey, & Walsh, 2009; Lundberg et al., 2008).

Supports on campus are also important for academic and social integration. Research shows that as students become involved in group projects, study with peers, and have contact with others in their cohort, they are likely to feel a sense of accomplishment and greater academic self-efficacy (Lundberg et al., 2008). For students with disabilities, peers with disabilities can become role models and resources that can lead to an increased

understanding of useful academic strategies and confidence to ask for accommodations (Conyers, Enright, & Strauser, 1998; Thoma & Getzel, 2005; Webster, 2004). Other supports on campus are counselors, faculty, and staff. Faculty and staff often work to make student learning the highest priority and assist students in their educational endeavors (McCleary-Jones, 2008). For students with disabilities, the likelihood of success is impacted by attitudes and services received from faculty and staff (McCleary-Jones, 2008). Therefore, when faculty members show understanding and awareness when accommodating the needs of students with disabilities, it can have a positive impact on goal attainment (Belch, 2004; Conyers et al., 1998; McCleary-Jones, 2008).

### **Theoretical Framework**

Seeking social supports and requesting academic accommodations are highly influenced by an individual's thoughts and feelings, as explained by Bandura's social cognitive theory (Bandura, 2004). Bandura's social cognitive theory states that an individual's thoughts and feelings will affect his or her behavior (Bandura, 2004). Knowledge is a crucial component because the student has to recognize the benefits of academic success in order to bring about change in their behavior. The student also has to have belief in their ability to perform well (self-efficacy), or there is little motivation behind any attempt at success. In addition, behavior is influenced by what outcomes the student sees coming from the behavior (Bandura, 2004). For example, a student can be motivated by the idea of good grades leading to a chance at a better career, positive support from parents and friends when receiving a good grade, or an increase in self-esteem. Similarly, behavior is influenced by goals students set for themselves. If students have attainable goals with far-reaching impact (a good career, graduate school, etc), they

are more likely to change their behavior in a positive way than the student who has few aspirations. Lastly, behaviors, thoughts, and beliefs will be impacted by the presence or absence of facilitators and impediments. The more facilitators present in the student's life, the more likely behavior will change by, in essence reducing the number of impediments in the student's path to success (Bandura, 2004).

One focus of the present study was self-efficacy, or the belief in one's ability to complete an action that leads to a desired outcome (Zajacova, Lynch, & Espenshade, 2005). Perception of one's ability to succeed is crucial for goal achievement (Noble, 2011). An individual with a belief in his/her ability will be more motivated to act, persist, and work harder than the person who believes that his/her efforts are futile (Brady-Amoon & Fuertes, 2011; Feldman, Kim, & Elliott, 2011). Conversely, an individual with self doubt will find it more difficult to achieve while fighting negative beliefs which leads to avoidance of tasks that are seen as beyond ability (Bandura, 1993; Conyers et al., 1998).

Self-efficacy is influenced by several factors: past performance, vicarious experiences, social persuasion, and emotional arousal (DeWitz & Walsh, 2002). With past success, self-efficacy becomes elevated, while previous failures can have a negative impact (Noble, 2011). In vicarious learning, an individual learns from observing others. The successes and failures of others influence the learner's beliefs about their own ability. For example, if an individual sees someone similar to themselves succeed on a task, the individual is more likely to believe that he/she, too, can succeed on the same task. Also, verbal persuasion can reinforce an individual's confidence in his/her ability to achieve an outcome. If others whom the individual holds in high esteem provide



encouragement, the individual's self-efficacy is more likely to increase (DeWitz et al., 2009; Noble, 2011). Lastly, high self-efficacy acts as a buffer against stress and anxiety (Coffman & Gilligan, 2002). Individuals with low self-efficacy tend to see tasks as threatening and stressful, while individuals with high self-efficacy view the same tasks as a challenge to overcome due to the belief in their ability to master the task (Bandura, 1993; Coffman & Gilligan, 2002).

Self-efficacy is a multidimensional construct which needs to be evaluated according to the setting. Thus, academic self-efficacy measures a student's belief in their ability to successfully complete academic tasks (Zajacova et al., 2005). Students with higher academic self-efficacy are more likely to be successful than those with low academic self-efficacy (Lundberg et al., 2008). For example, students with low academic self-efficacy may be less motivated to work hard on tests or persist through challenging questions and may feel anxious about taking the test (Feldman et al., 2011). Those who feel badly about their performance are likely to go into subsequent tests with self-doubt (Lundberg et al., 2008). Research shows students close to graduating rate themselves high in self-efficacy, which is to be expected from their mastery of experiences (Lundberg et al., 2008).

Students with disabilities in postsecondary education are likely to have low self-efficacy as they face new experiences they see as stressful, especially as they try to be accepted by peers (Conyers et al., 1998). Furthermore, if the disability impacts concentration, effort, and memory, the student may be less likely to master an academic task, which will lead to a decrease in their academic self-efficacy (Coetzer, Hanson, & Trimble, 2009). In addition, the low self-efficacy of a student with a disability may

inhibit the individual from requesting accommodations. The student may lack confidence or belief in his/her ability to execute the behavior of asking for accommodations (Conyers et al., 1998). With use of academic accommodations, however, students with disabilities become more confident in their ability which leads to an increase in their motivation for the task (Feldman et al., 2011). A study by Klassen (2008) found that some students with disabilities may be too confident. Specifically, students with learning disabilities were found to lack a belief in their academic ability, but had confidence in their performance in academics. This could become a problem if the students' false beliefs lead to less preparation for class and exams or less interest in using accommodations because they believe they will perform well on their own (Klassen, 2008).

As academic achievement and success are important for students with disabilities, it is important that they are taught how to increase their self-efficacy, which will assist them as they face adversity and difficulties (Hsieh, Sullivan, & Guerra, 2007). It is not merely about teaching students appropriate study skills or learning strategies, but it is also necessary to assist them in developing confidence in their abilities (Hsieh et al., 2007). The more they believe in their ability to achieve, the more likely they are to succeed, and these successes will solidify beliefs that they will succeed in the future (Turner, Chandler, & Heffer, 2009). Furthermore, research shows that high self-efficacy is associated with higher use of appropriate learning strategies, which increases likelihood of academic achievement in undergraduate students (Reed, Kennett, Lewis, Lund-Lucas, Stallberg, & Newbold, 2009).

### **Statement of the Problem**

Although the number of undergraduate students with disabilities attending colleges and universities has increased (from roughly 6% in 1999 to 10.8% in 2008), the amount of time students with disabilities take to complete a degree is longer than that of students without disabilities (Hurst & Smerdon, 2000; Raue & Lewis, 2011; Stodden & Dowrick, 2000; Webster, 2004). There may be many reasons for this discrepancy. Students with disabilities may lack understanding of their disability or how academic accommodations can help them and may not use the accommodations even when they are assigned (Barnard-Brak, Sulak, Tate, & Lechtenberger, 2010; Trammell, 2003). Students who need extra support and do not use accommodations given to them may struggle more with schoolwork, decreasing motivation to finish a degree (Khalil, 2008).

Postsecondary institutions work to increase the amount and quality of services available to students with disabilities, but students with disabilities are often not satisfied (Johnson, Zascavage, & Gerber, 2008; Stodden et al., 2001). Students with disabilities note the need for viewing the student as an individual instead of a disability category in order to improve the quality of supports the individual receives (Stodden & Conway, 2003). Disappointment with services could prevent students from returning to the disability service office if they have questions or concerns about accommodations, meaning they may have to struggle academically with ineffective accommodations (McCleary-Jones, 2008).

In addition to poor academic performance and difficulty using academic accommodations, students often leave postsecondary institutions due to a lack of support and encouragement from family and feelings of isolation on campus (Conyers et al.,

1998; DeWitz et al., 2009). Perceived lack of understanding from others impacts success, and negative perceptions in this area may lead to discouragement and poor adjustment to school (Coffman & Gilligan, 2002; Lundberg et al., 2008). Beyond friends and family, faculty support also has an impact on student retention (DeWitz et al., 2009). Research indicates that faculty members may be a barrier, rather than a support, for students with disabilities (Webster, 2004). Studies show that students feel some faculty members are insensitive to their needs and resist providing academic accommodations (McCleary-Jones, 2008; Webster, 2004). With little support from faculty and difficulty accessing accommodations, students with disabilities are less likely to be successful in classes (Stodden & Dowrick, 2000; Trammell, 2003).

The perceived lack of faculty support, fear of identifying as a student with a disability, and feelings of isolation causes some students with disabilities to feel they have to rely on themselves for their academic success at the postsecondary level (Dowrick, Anderson, Heyer, & Acosta, 2005). Stigma and representation as a member of a minority group may also cause students with disabilities to have limited confidence in their ability to be as successful as their peers, and low academic self-efficacy can become a barrier to education (Palmer & Roessler, 2000). Students with disabilities and low self-efficacy not only lack confidence in their ability, but also may not use appropriate learning strategies that can assist them in improving their academic efforts (Bandura, 1993; Zajacova et al., 2005). As students with disabilities face the challenges of postsecondary education, more research is needed to investigate perceived self-efficacy for students with disabilities and its relationship to academic accommodations, social support use, and success in postsecondary education. Empirical data regarding services

and supports that students with different disabilities use at the postsecondary level can help disability service offices improve guidance and resources. With better recommendations and assistance from disability staff, students with disabilities may be more likely to have success in postsecondary education.

### **Significance of the Study**

Although the *Rehabilitation Act of 1973* and the *Americans with Disabilities Act* have mandated the necessity of services for students with disabilities to receive equal access to education, a clear picture of what contributes to academic success is still lacking. Evidence indicates that although enrollment in postsecondary institutions has increased for students with disabilities, the number of students graduating with a degree has not risen to the same extent (Belch, 2004). Studies show that the presence of a disability decreases the likelihood of earning a degree, and difficulty adjusting to the academic environment impacts student success (Weng, Cheong, & Cheong, 2010; Wessel, Jones, Markle, & Westfall, 2009).

Research shows that academic self-efficacy predicts academic performance, grade point average (GPA), task persistence, and retention in the general student population (Majer, 2009; Zajacova et al., 2005). For example, students with low academic self-efficacy are more likely to view tasks as stressful, and an inability to handle stress leads to a greater likelihood of dropping out of college (Zajacova et al., 2005). Students with increased self-efficacy are likely to select coping strategies that make tasks more manageable and enable them to persist (Zajacova et al., 2005). Therefore, students with disabilities and high self-efficacy may be more likely to use academic accommodations and seek out social supports to assist them with completing an academic task. If the

academic accommodation or resource is seen as useful in completing the task, the student's self-efficacy is likely to increase, lending itself to confidence that they will succeed in the future. However, if the student is unsuccessful or does not view the accommodation as helpful, it is likely to have a detrimental effect on the student's confidence in their ability to succeed (Devonport & Lane, 2006). More research is needed in order to improve understanding of academic self-efficacy of students with disabilities and, ultimately, to provide assistance in actively seeking necessary supports (Lundberg et al., 2008).

Additionally, more research is needed to provide a better understanding of postsecondary barriers and facilitators to success, as the current literature is limited. For example, several studies examined what supports are offered to students, but little research has been conducted regarding the effectiveness of services and the impact of those supports on academic success (Stodden et al., 2001). Moreover, studies that have examined the benefits of academic accommodations were often completed at the elementary or high school level, not in postsecondary institutions (Feldman et al., 2011; Trammell, 2003). Also, missing in the research is empirical evidence that indicates which types of accommodations and services are most beneficial to which groups of disabilities as most of the research focuses on students with learning disabilities (Cawthon & Cole, 2010; Saks, 2008; Skinner, 2004; Troiano, Liefeld, & Trachtenberg, 2010). Furthermore, literature on self-efficacy at the postsecondary level focuses mainly on the general population of students, not specifically on students with disabilities (DeWitz et al., 2009; Hsieh et al., 2007; Turner et al., 2009).

With additional information regarding the connection between student characteristics and accommodation use, faculty and staff in postsecondary institutions are better informed on how to advise students to use supports that will contribute to their success (Saks, 2008). For example, information about year in school, major, self-efficacy, and disability group can further assist staff in assigning more individualized accommodations. Investigating the benefits of academic accommodations is becoming more prevalent, as the type of educational supports and services have increased with the influx of students with disabilities entering postsecondary institutions (Stodden et al., 2001). This is important as retention rates for students with disabilities is less than that of the general student population, and it is unclear what services and supports benefit students with disabilities in completing postsecondary programs (Stodden & Dowrick, 2000; Trammell, 2003). Empirical data that is indicative of what characteristics improve performance and graduation rates for students with disabilities can be used to increase the likelihood of staying in school, finishing class work, and obtaining a degree (Stodden & Dowrick, 2000).

### **Purpose of the Study**

The purpose of this study was to examine accommodation use, social support use, academic self-efficacy, and academic success in postsecondary students with disabilities. The objectives of this study were to examine whether: (a) academic success was related to academic self-efficacy; (b) academic success was related to academic accommodation use; (c) academic success was related to social support use; (d) academic accommodation use, social support use, disability group, or academic self-efficacy predicted academic success; and (e) the variables of academic accommodations, social support use, academic

self-efficacy, or academic success differed among disability groups. The results of this study will be used to increase the knowledge regarding students with disabilities coming to postsecondary institutions with specific attention to factors contributing to increased academic success. The results will assist disability service office personnel to understand what accommodations are helpful for college students with disabilities, the role social supports play in academic success, how to advise students with different disabilities, and how the student's belief system can impact success.

### **Research Questions**

Research questions were created to guide the study. The research questions for this study were as follows:

- Q1 Is there a positive relationship between: (a) academic success and use of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy for postsecondary students with disabilities?
- Q2 Do academic accommodation use, social support use, academic self-efficacy, or disability group predict academic success in postsecondary students with disabilities?
- Q3 Are there disability group differences in academic accommodation use, social support use, academic self-efficacy, or academic success?

For Research Question 1, the independent variables were use of academic accommodations, use of social supports, and academic self-efficacy; the dependent variable was academic success. In Research Question 2, independent variables were academic accommodation use, social support use, academic self-efficacy, and disability group, with the dependent variable of academic success. Lastly, for Research Question 3, the independent variable was disability group, and the dependent variables were



academic accommodation use, social support use, academic self-efficacy, and academic success.

### **Delimitations**

There were several limitations to this study. First, participants were recruited from colleges and universities in Colorado which restricted populations to which the results could be generalized. Also, schools from which the participants were recruited were those that agreed to participate in the study and sent an email to their students containing the link to the survey. These schools may have agreed to participate because they felt confident that they already provided services and interventions that were useful for their students.

Second, only those students who had registered with the disability service office at their school had an opportunity to participate in the study. There may have been students with disabilities on campus who had not signed up with the disability service office. Furthermore, students who participated in the study were only those who were receiving academic accommodations at the time of the study, narrowing the population of students from whom the data were collected, and the responses provided information on only one glimpse in time. In addition, academic success may have been attributed to other variables not examined in this study such as frequency of accommodation use, family members' education levels, and post graduation career and educational goals.

### **Definition of Terms**

*Academic Accommodation.* An academic accommodation is a modification to policies, procedures, services, programs, or facilities that grant individuals with disabilities equal access to educational opportunities. Accommodations do not

fundamentally alter a program or remove a significant requirement. Examples of accommodations include extended time on tests, interpreters, and note takers.

*Academic Self-efficacy.* Academic self-efficacy is a student's belief in their ability to successfully complete academic tasks (Zajacova et al., 2005).

*Academic Success.* In the present study, academic success was defined by a student's grade point average (GPA).

*Disability.* A disability is a physical or mental impairment that substantially limits one or more major life activities (including learning), a record of such an impairment, or being regarded as having such an impairment (*Americans with Disabilities Act of 1990*, 42 U.S.C. § 12102(2)).

*Postsecondary Education.* Postsecondary education refers to an education received beyond high school, usually at a two- or four-year degree-granting college or university. Postsecondary education can also refer to education received at a technical school or trade school.

*Self-efficacy.* Self-efficacy is an individual's belief in his or her ability to complete an action that leads to a desired goal. Individuals with high self-efficacy are more likely to be motivated to persist and complete a task than individuals with low self-efficacy (Zajacova et al., 2005).

*Social Support.* Social support is encouragement that is accessible to an individual through ties to other individuals (Coffman & Gilligan, 2002). This may include friends, family members, professors, and school staff (Hux, Bush, Zickefoose, Holmberg, Henderson, & Simanek, 2010).

## Summary

Individuals with disabilities who pursue higher education have a chance to find a better job and improve quality of life (Hall & Belch, 2000; Mamiseishvili & Koch, 2011). Although students with disabilities have recognized the need for an education and laws such as the ADA and the Rehabilitation Act provided the opportunity for qualified individuals with disabilities to obtain a postsecondary education (Thomas, 2000), many students struggle to complete a degree (Stodden & Dowrick, 2000). Research indicates that reasons behind the academic difficulties of students with disabilities are poor quality of services (Johnson et al., 2008; Stodden et al., 2001), lack of support and feelings of isolation on campus (Conyers et al., 1998; DeWitz et al., 2009), and lack of confidence in the ability to be successful (Palmer & Roessler, 2000). However, empirical data on the above-mentioned factors is lacking in this population (Feldman et al., 2011; Trammell, 2003), and the literature that does exist focuses mainly on students with learning disabilities (Cawthon & Cole, 2010; Saks, 2008; Skinner, 2004; Troiano et al., 2010). As a result, this study examined academic self-efficacy, accommodation use, social support use, disability group, and academic success in postsecondary students with disabilities.

## **CHAPTER II**

### **LITERATURE REVIEW**

This chapter will present information regarding factors associated with academic success for students with disabilities. First, an overview of the legislation related to opportunities for students with disabilities in postsecondary education will be provided. Second, social supports and barriers to support use in postsecondary education will be discussed with a focus on peers, family, faculty, and disability service offices. Third, academic accommodation use and barriers associated with academic accommodations will be reviewed. Fourth, social cognitive theory with an emphasis on self-efficacy will be explained as well as how self-efficacy is related to accommodation use, social support use, and success for students with disabilities in postsecondary institutions. Finally, literature on disability group differences in the above-mentioned factors will be discussed as well as how academic self-efficacy, accommodation use, social support use, and disability group are shown to be linked to academic success for students with disabilities.

#### **Legislative Background for Postsecondary Students with Disabilities**

Students with disabilities are entering postsecondary institutions at increasing numbers, which can be partially attributed to both the *Rehabilitation Act of 1973* and the *Americans with Disabilities Act of 1990*. The Rehabilitation Act, specifically, *Section 504*, dictates the following.

No otherwise qualified individual with a disability in the United States . . . shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. (29 U.S.C. § 794(a))

A qualified individual is an individual with a disability who is able to meet the requirements of the program with or without provision of reasonable accommodations (Thomas, 2000). The ADA expands coverage of the Rehabilitation Act beyond postsecondary schools receiving federal funding to include private institutions that are not receiving any federal financial assistance (Thomas, 2000). The laws provide individuals with the opportunity for a postsecondary education, but it becomes the individual's responsibility to prove that they are qualified and have a disability (Thomas, 2000). Postsecondary institutions are not required to provide accommodations to students that do not show documentation of disability (Thomas, 2000). Once the student provides such documentation, it is the responsibility of the school to decide what reasonable accommodations are appropriate for the student (Hadley, 2007; Thomas, 2000).

Accommodations that each school provides can vary (Mull, Sitlington, & Alper, 2001); however, as Thomas (2000) point out:

A college is responsible for providing reasonable accommodations or modifications that do not result in unfair advantage, require significant alteration to the program or activity, result in the lowering of academic or technical standards, or cause the college to incur undue financial hardship. (p. 254)

Therefore, every accommodation request does not have to be granted, only those deemed as reasonable by the school (Hawke, 2004). Disability service offices are responsible for reviewing a student's documentation and determining appropriate accommodations (Thomas, 2000). In addition, the disability service office is not required to seek out students in need of accommodations. It is the responsibility of a student to identify as

having a disability, provide documentation, and request accommodations (Hawke, 2004).

The student is also responsible for facilitating the accommodation process, which includes requesting accommodations from the professor, the request accompanied by a letter from the disability services office indicating what accommodations the student needs. If a problem arises in the accommodation process, the student is also responsible for speaking up to rectify the situation (Simon, 2000).

### **Academic Accommodations**

The role of disability services offices is to provide reasonable accommodations or adjustments to an activity or setting that removes a barrier presented by a disability so a person with a disability has access equal to that of a person without a disability (Rath & Royer, 2002). Academic accommodations are not meant to change the fundamental construct of instruction or assessment (Ketterlin-Geller & Johnstone, 2006), but instead, to provide equal access to education for students with disabilities alongside their peers without disabilities (Graham-Smith & Lafayette, 2004; Ofiesh, 2007). They are meant to help improve success for students with disabilities by allowing them to access information and demonstrate knowledge in ways that fit their needs (Ofiesh, 2007). Accommodations are not meant to give an easy advantage to students with disabilities, but instead, they are meant to negate the differences in performance due to a student's disability (Ketterlin-Geller & Johnstone, 2006). Students with disabilities entering postsecondary education look for accommodation support as they face higher academic standards, independence, time management, and other challenges not previously faced (Cawthon & Cole, 2010). The law requires schools to provide reasonable accommodations, but specific accommodations are not suggested (Smith, 2007). It is up

to each school to determine which accommodations to provide and recommend to students with disabilities (Simon, 2000; Smith, 2007). Therefore, accommodations available at each school may vary, depending on what the institution deems necessary or appropriate (Cawthon & Cole, 2010; Sharpe & Johnson, 2001; Troiano et al., 2010).

### **Lack of Academic Accommodations**

Although postsecondary institutions may have reasonable and appropriate accommodations available for students with disabilities, students who are eligible for accommodations may not receive or use them (Sack, Gale, Gulati, Gunther, Nesheim, Stoddard, & St. John, 2008). Some students who require academic accommodations do not use them because they refuse to identify as a student with a disability to the disability services office on campus (Johnson et al., 2008). Reasons for not identifying as a student with a disability include wanting to be seen and accepted as equals by peers and wanting to be seen as competent (Johnson et al., 2008; Kiuvara & Huefner, 2008). Students with disabilities also do not identify because they do not want to be treated differently or disclose a disability (Ketterlin-Geller & Johnstone, 2006; Webster, 2004). Other students with disabilities may not receive accommodations because they do not realize they have a right to accommodations (Palmer & Roessler, 2000; Rehfuss & Quillin, 2005). Also, students may not know that services or the office exist on campus (Cawthon & Cole, 2010; Dowrick et al., 2005; Salzer, Wick, & Rogers, 2008). In addition, many students with disabilities arrive on campus wanting to be independent and successful without accommodations (Broadbent, Dorow, & Fisch, 2006; Ketterlin-Geller & Johnstone, 2006; Rehfuss & Quillin, 2005). Other research shows that students with disabilities may wait until they feel comfortable in class or form a relationship with the professor to ask for

accommodations, while other students may request accommodations only for difficult classes (Ketterlin-Geller & Johnstone, 2006). Lastly, students may feel that they are cheating by requesting accommodations (Barnard-Brak et al., 2010; Trammell, 2003). For many of these students, by the time they ask for accommodations, it is often too late, and grades may suffer as a result (Broadbent et al., 2006).

### **Knowledge and Skills to Request Accommodations**

Students who do choose to seek out disability service offices and request accommodations are required to be responsible for the provision of effective accommodations (Stodden & Conway, 2003). However, many students arrive on campus without the necessary knowledge and skill to advocate for themselves (Hadley, 2007). Skinner (2004) asked students with learning disabilities about their familiarity with federal laws, and all the participants lacked information about their rights and responsibilities as a student with a disability at the postsecondary level as determined by *Section 504* and ADA. Without knowing their rights, students are unable to understand the role they have in meeting their needs with accommodations (Stodden et al., 2001). Furthermore, students with disabilities ask for accommodations, but may not understand or be able to articulate their disability, how the disability impacts their learning (Ofiesh, 2007), or how accommodations will help them succeed (Trammell, 2003). This can be an issue for students with hidden disabilities working with professionals who are unable to determine the impact of the impairment and need to rely on the student for an explanation of limitations (Hall & Belch, 2000). Students who lack self awareness of their strengths, weaknesses, and needed services may rely on trial and error to find services that are useful to them (Thoma & Getzel, 2005).



Students' knowledge about appropriate accommodations for their disability is a necessary tool at the postsecondary level, especially when the responsibility to succeed is placed on the student (Hadley, 2007). It is crucial that students realize they have the right to speak up when they are dissatisfied with the services they receive (Ketterlin-Geller & Johnstone, 2006), and the literature shows that problems can and do exist when services are received (Kurth & Mellard, 2006). The most important issue stated in the literature is that students are often given accommodations based on their disability, not their individual needs (Cawthon & Cole, 2010; Horvath, Kampfer-Bohach, & Kearns, 2005; Kurth & Mellard, 2006; Ofiesh, 2007). Postsecondary institutions need to recognize that accommodation needs may be different for an individual student as well as across disability groups. Students with disabilities may also require different accommodations depending on the type of class or whether the student is in a lecture or assessment situation (Cawthon & Cole, 2010; Ofiesh, 2007; Stodden et al., 2001). However, some students continue to receive the same accommodations from semester to semester and year to year even though the types of classes and academic demands may change over time (Kurth & Mellard, 2006).

### **Most Recommended Accommodations**

The most frequently recommended accommodation for students with disabilities is extended time for tests (Broadbent et al., 2006). The most recent data from NCES shows that 93% of institutions report granting additional time for tests (Raue & Lewis, 2011). Other popular accommodation recommendations include note takers, faculty-provided course notes, alternative format for an exam, and assistive technology (Raue & Lewis, 2011). Along with accommodations for classes and assessments, accommodations

can be made at the administrative level as long as program standards are not impacted and/or there is no undue financial hardship incurred by the school (Hawke, 2004).

Accommodations at the administrative level include adjustment of the timeline to complete a degree, course substitution (as long as the courses are not crucial to the program standards) (Thomas, 2000), reduced course load, relaxed attendance (Kiuvara & Huefner, 2008), receiving a grade of incomplete instead of failing (Salzer et al., 2008), waiver of language requirement, allowance of repetition of a class, late class withdrawal, and allowance of a part time schedule (Mull et al., 2001).

### **Ineffective Accommodations**

Much of the research focuses on what accommodations are provided, but not if they are effective for students with disabilities at the postsecondary level (Canto, Proctor, & Prevatt, 2005; Ofiesh, 2007; Salzer et al., 2008). Students access equal opportunities for education only when they receive the appropriate and effective services (Ketterlin-Geller & Johnstone, 2006). If schools collect information about the services that students receive, they may recognize that even though the services appear beneficial, students may feel otherwise (Stodden et al., 2001). A study by Sharpe, Johnson, Izzo, and Murray (2005) highlighted situations where students were provided accommodations that they did not want or think they needed. Also, some students mentioned instances of being denied accommodations they thought were appropriate for their needs.

Even when students receive accommodations that they want or need, issues can still arise with implementation of accommodations. For example, many students with disabilities utilize the accommodation of taking exams in a quiet setting. Although this accommodation may be helpful, some students have indicated that test proctors were not

helpful or knowledgeable about the content of the test (Hadley, 2007; McCleary-Jones, 2008). Also, students who utilize tutoring or writing center services were displeased to find a staff of peers instead of professionals with the knowledge and experience working with students with disabilities (Hadley, 2006; Hadley, 2007; Orr & Hammig, 2009). Note takers can be helpful for a variety of accommodations such as mental impairments that make concentration difficult, motor impairments that impact the ability to write, and hearing impairments that make it difficult to read lips and take notes at the same time, among others (Broadbent et al., 2006; Elliot, Stinson, McKee, Everhart, & Francis, 2001; Graham-Smith & Lafayette, 2004). However, students with disabilities have noted that it can be difficult to read the handwriting of a note taker, notes may be messy or disorganized, and information could be missing because the note taker already knew the material or found the information to be unimportant (Elliot et al., 2001).

Students have also reported problems with using assistive technology as an accommodation. For example, voice recognition software can be useful to students who need help getting ideas on paper before they are forgotten or for those who have difficulty operating a keyboard. Students speak into a headset and the words are entered into a document on the screen. However, some students find that voice recognition software is difficult to use, as it misses words the student speaks or misinterprets what is said. It is also difficult to correct words if a mistake is made (Roberts & Stodden, 2005). Assistive technology that is complex to use, does not function as intended, lacks reliability, and does not improve independence is more likely to be abandoned (Mull & Sitlington, 2003).

The lack of research on effectiveness of accommodations at the postsecondary level is concerning because it might impact grade point averages and cause students with disabilities to withdraw from school before completion of a degree (Roberts & Stodden, 2005; Stodden & Dowrick, 2000; Troiano et al., 2010). Inadequate accommodations may also be a factor in the time it takes students with disabilities to complete their degree (Stodden & Dowrick, 2000). There is a need for better services and supports that will allow students equal access to education and opportunity for success (Stodden & Dowrick, 2000). Some students indicate that supports are helpful, and other students are displeased with the services they are provided (Hadley, 2006), and it is necessary to look at the characteristics and needs of students with disabilities to understand this discrepancy (Stodden & Dowrick, 2000).

### **Student Success with Accommodations**

Although some students may experience difficulties with accommodations they receive, there are steps school staff can take to help students be successful at the postsecondary level. For example, disability staff can recommend accommodations on an individual basis (Collins, 2000; Hadley, 2007; Salzer et al., 2008). Individualized accommodations are those that take into consideration the disability, the academic program, and other characteristics of the student and are context appropriate (Collins, 2000; Lindstrom, 2007; Stodden et al., 2001). When individualized accommodations are provided, students with disabilities are able to work and participate at a level equal to their peers without disabilities (Salzer et al., 2008). Trammel (2003) believes that a student's success may be impacted by the use of an accommodation in ways beyond that of an academic tool.

Accommodations, thus, may serve as motivations tools, reassuring students or boosting their confidence, rather than serving in their intended roles as academic tools. This is likely the case when students disclose their disability to their school, but decline any accommodations, citing the action as a desire simply to have a safety net. (p.78)

Furthermore, “There is no compelling evidence in the literature to confirm that an increase in the number of accommodations provides a differential boost to student grades” (Trammell, 2003, p. 79). This indicates that it is not the quantity of accommodations that is important, but more the quality (Trammell, 2003).

It is not only important that students receive accommodations that take into consideration more than just the disability, but also that academic success requires that students go to the disability service office to get accommodations as soon as possible, rather than waiting until they are struggling with classes (Collins, 2000). Skinner (2004) studied students with learning disabilities and found that successful individuals were those who took it upon themselves to behave in ways that lead to their success. Similarly, a study by Hux et al. (2010) that examined traumatic brain injury survivors revealed that persistence and determination were essential characteristics for achievement in higher education. Those students who took control and acted in ways to improve their likelihood of success were more likely to achieve than those who did not.

### **Importance of Social Supports**

Students with disabilities in postsecondary education realize that they need more than academic accommodations; they must also seek support and encouragement from other individuals such as family, peers, faculty, and school staff (Hux et al., 2010; Johnson et al., 2008). Encouragement and interest from other individuals are crucial as students face stressors such as challenging coursework, time management, and living

with roommates (Coffman & Gilligan, 2002). Social supports have been found to act as a buffer for stress during college adjustment (Lundberg et al., 2008), and networks of support have led to better coping strategies, well-being, and higher self-efficacy (Coffman & Gilligan, 2002; Lundberg et al., 2008). For many students, it is not the number of supports, but the quality of those relationships which leads to success in college (Hux et al., 2010; Lundberg et al., 2008).

Students with disabilities report that peer support and disability staff support are among the most beneficial supports on campus (Webster, 2004). For students with disabilities, social inclusion through interaction with peers, faculty, and extracurricular activities may be as important as academic inclusion through the use of accommodations (Belch, 2004). However, attitudinal barriers, fewer opportunities for social contact, and low satisfaction with interactions is a common problem and may lead to low persistence and graduation rates in this population (Stodden et al., 2001; Webster, 2004). For example, students with disabilities who perform well academically and make good grades reported feelings of isolation and a lack of significant relationships as reasons they withdrew from school (Coffman & Gilligan, 2002; Conyers et al., 1998).

### **Support from Family**

As students with and without disabilities begin postsecondary programs, they often rely on their families, an already existing support in their lives (Lundberg et al., 2008). Lundberg et al. (2008) found that adult students at the beginning of their program received more emotional support from family than did students at the end of their program (p. 62). This change could be due to students becoming more independent with time or family members failing to understand how to provide support over time

(Lundberg et al., 2008). Students often look to their families to show interest and ask questions about their studies and college experience. Interest from others encourages success, and studies have found that students whose families lacked interest become discouraged in their studies (Lundberg et al., 2008). There is a lack of research investigating students with disabilities and family support which is needed as students with disabilities continue to face challenges throughout their education. There is also a discrepancy in findings of whether family supports lead to academic success, or whether families of students with disabilities are overprotective and, thus, hinder their independence and growth (Webster, 2004).

### **Peer Support**

Although families provide some support for students with disabilities, peer support is available on campus and can play an important role in adjustment to college and receiving services. Encouragement from other students with disabilities can reduce perceived stigma and negative attitudes (Conyers et al., 1998), boost confidence in requesting accommodations (Conyers et al., 1998), and make the student feel empowered (Webster, 2004). Results of a study by Dowrick et al. (2005) indicated, “Peers also play an important role and can provide guidance by example. Other students with disabilities serve as a resource for information about available services, advocacy, and supports” (p. 45). Furthermore, students with disabilities can act as role models for other students with disabilities, helping them increase their self-esteem, social skills, and learning strategies to be successful in postsecondary education (Smith, 2007; Thoma & Getzel, 2005).

Students with disabilities may receive support from peers with disabilities, but connecting to peers without disabilities can be more difficult (DeWitz et al., 2009; Grigal, Neubert, & Moon, 2002). For students without disabilities, support from other students is likely to evolve from working on class projects and being part of the same cohort (Lundberg et al., 2008). However, students with disabilities may be subject to discrimination when they use academic accommodations. In a study by Egan and Giuliano (2009), students with disabilities who received accommodations were seen as less intelligent by their peers without disabilities. Also, students in the study were stigmatized when accommodation use led them to outperform their peers (Egan & Giuliano, 2009). This study shows that although students with disabilities have a right to accommodations, using accommodations may decrease social status. On the contrary, students who do not use academic accommodations, but perform poorly, may have greater acceptance by their peers (Egan & Giuliano, 2009). Therefore, students with disabilities may find it difficult to sustain friendships because of their disability and/or use of accommodations, and they may hesitate to share information about their disability with peers without disabilities (Cawthon & Cole, 2010).

It is important to note that Egan and Giuliano (2009) examined only students with learning disabilities. More research is needed on the quality of peer relationships in postsecondary education for students with a variety of disabilities. Connecting with peers is important as students with disabilities who are more socially integrated with others are less likely to feel isolated and withdraw from school than are those with no attachments to others (Belch, 2004; Cawthon & Cole, 2010; Mamiseishvili & Koch, 2011). When



students with disabilities interact with others, they often feel a sense of belonging and purpose and improved satisfaction with college or university life (Belch, 2004).

### **The Role of Faculty Support**

As mentioned previously, not only is support from peers one of the most important supports on campus, but students with disabilities see faculty as a beneficial support as well. Similar to peers and other supports, university faculty has a role in adjustment to college for students with disabilities as well as in implementation of academic accommodations (Salzer et al., 2008). Students with disabilities are often anxious and nervous to request accommodations from their professors (Ketterlin-Geller & Johnstone, 2006), but communicating their needs to professors is an important step in receiving accommodations (Foley, 2006). Support from faculty is crucial as attempts at requesting assistance leave an impact on students with disabilities and will likely influence any future decisions to seek help (Canto et al., 2005). Those with positive experiences will be more likely to seek help in the future (Canto et al., 2005). In addition, students who are comfortable communicating with faculty tend to meet with professors for help outside of class which can contribute to academic persistence and success (Hadley, 2006; Mamiseishvili & Koch, 2011; Salzer et al., 2008).

Students with disabilities most often attribute lack of success to poor relationships with faculty (Belch, 2004; Troiano et al., 2010). Many students with disabilities report a lack of understanding and insensitivity from professors regarding their disability or unwillingness to provide necessary accommodations (McCleary-Jones, 2008). Faculty members are more willing to implement accommodations for students with mobility impairments than for students with hidden disabilities; since students with hidden

disabilities currently make up the largest population of students with disabilities at the postsecondary level, receiving accommodations may be more difficult for many students (Burgstahler & Moore, 2009). According to research, faculty are often willing to accept accommodations that require little work on their part, such as extended time for tests. However, students with disabilities may require more than extended time for success, and they look to faculty to help facilitate their academic achievement (Ketterlin-Geller & Johnstone, 2006; Lindstrom, 2007). Furthermore, due to a lack of understanding about disabilities and student needs, students requesting accommodations may be perceived by faculty as trying to avoid coursework, getting an unfair advantage, or asking the faculty to lower their standards (Burgstahler & Moore, 2009; Smith, 2007; Webster, 2004).

Areas in which faculty knowledge is lacking include accessibility issues, accommodations, hidden disabilities, disability law, impact of disability on the student, limitations caused by a disability, and ethical implications of accommodations (Burgstahler & Moore, 2009; Cawthon & Cole, 2010; Ketterlin-Geller & Johnstone, 2006). This lack of education and information is important as it impacts faculty attitudes towards students with disabilities who request accommodations in the classroom (Dowrick et al., 2005). Faculty need to be informed of and receptive to students with disabilities in order to assist them in their academic endeavors as research shows that faculty willingness to accommodate impacts student success (Lindstrom, 2007; Wessel et al., 2009). However, most research investigates students with learning disabilities or psychiatric disabilities; there is a lack of research regarding students with other disabilities and their relationships with and experiences in asking faculty for assistance.

## **Disability Services Staff**

Although faculty members have a role in provision of accommodations for students with disabilities, the process starts in disability service offices. Staff in disability service offices are advocates for and facilitators of provision of academic accommodations to students with disabilities in postsecondary education (Ketterlin-Geller & Johnstone, 2006). Students who utilize disability service offices and are satisfied with their experience are more likely to be successful (McCleary-Jones, 2008; Wessel et al., 2009). Students who are not satisfied with their experience with disability services may not return to that office, even when a problem with accommodations occurs, which could impact retention and success (McCleary-Jones, 2008). A study by Graham-Smith and Lafayette (2004) examined the quality of disability service offices and found that, “Overwhelmingly, the criteria of having ‘caring people’ in a disability support office who provide students a ‘sense of security’ and a ‘safe environment’ was the most frequently mentioned benefit . . . for students accessing disability support services” (p. 98). For students with disabilities, it is not just the accommodations, but the attitude of staff and the environment that allows them to be successful and persist in postsecondary education (Graham-Smith & Lafayette, 2004).

A letter from disability services staff that lists academic accommodations can give students with disabilities the confidence and increase in self-efficacy to request accommodations from professors (Graham-Smith & Lafayette, 2004). With the assistance of disability services, not only does requesting accommodations become easier for students, but it also helps professors who teach students with disabilities and may lack the knowledge about how to best assist them in the classroom (Dowrick et al., 2005; Orr &

Hammig, 2009). For those students who may be afraid to talk to professors or have difficulty receiving accommodations they requested, disability services staff can help by consulting with faculty and improving supports (Mull et al., 2001). In addition, for students with disabilities who may prefer classes during certain times of the day due to medication side effects, disability services staff can make sure those students are taking classes at times that work best for them. Also, students who have a particular learning style can turn to disability services staff for advice on how to match a teaching style with their learning style (Graham-Smith & Lafayette, 2004). However, there is a discrepancy in the research as to whether students find disability services satisfactory. Since disability services play a large role in accommodation provision for students with disabilities, more data is needed to uncover student characteristics, experiences with accommodations, and student attitudes toward using disability services.

### **Self-Efficacy**

As already mentioned, use of social supports and academic accommodation can influence success for students with disabilities in postsecondary education. Another factor noted to influence academic success is self-efficacy (Vuong, Brown-Welty, & Tracz, 2010). Self-efficacy, part of social cognitive theory, is a belief in one's ability to perform a task that will lead to a goal (Coetzer et al., 2009). Self-efficacy can help with conquering fear as well as adjustment during transition, both of which are important for postsecondary students enrolled in college or university (Turner et al., 2009). It is not solely acquiring the right skills to succeed, but also on focusing on the belief in the capability to succeed (Hsieh et al., 2007). Individuals who perceive themselves as competent are more likely to attempt and persist even after a failure, whereas individuals

with self-doubt are less likely to attempt and persevere (Burney, 2008; Palmer & Roessler, 2000). Individuals with high self-efficacy are also likely to view situations as challenges, rather than stressors because of their belief in competency (Coffman & Gilligan, 2002).

In social cognitive theory, Bandura (2004) states that along with self-efficacy, behavior is affected by knowledge, outcome expectation, goals, facilitators, and impediments to the behavior. These factors also affect self-efficacy and the role it plays in dictating behavior of the individual. For example, an individual must have the understanding and knowledge regarding the reason(s) they need to act in a certain way. The individual is more likely to behave in a certain way when they expect the action will lead to a certain outcome. Also, individuals are more likely to behave positively when goals are attainable and in close proximity than when more challenging feats lead to desired goals in the distant future. Finally, the more barriers an individual faces as they attempt a behavior, the quicker they will stop performing a behavior. On the other hand, if a behavior is easily accomplished and facilitated by the environment, such as with proper strategies and supports, the individual is more likely to complete the behavior (Bandura, 2004).

Along with the above-mentioned factors, self-efficacy is also impacted by performance accomplishments, vicarious learning, social persuasion, and emotional arousal (DeWitz et al., 2009). Performance accomplishment suggests self-efficacy can be improved through mastery of tasks, while failure can lower self-efficacy (Coetzer et al., 2009; Noble, 2011). Vicarious learning is described as when an individual observes someone of similarity to themselves succeeding in a task, and the individual then believes

that they can be successful, too. Social persuasion impacts self-efficacy in that belief in ability is increased with encouragement from others (DeWitz et al., 2009). Finally, emotional arousal equates to stress and anxiety which can decrease confidence and self-efficacy (Lundberg et al., 2008). High levels of self-efficacy can also prevent feelings of stress from failure (Lundberg et al., 2008).

### **Academic Self-Efficacy**

Self-efficacy is a broad term that is situation specific. Therefore, in the context of postsecondary education, academic self-efficacy is measured and discussed. Academic self-efficacy is an individual's belief in their ability to complete academic tasks such as papers and exams (Zajacova et al., 2005). Research shows that academic self-efficacy predicts grade point average and academic performance (Majer, 2009; Weng et al., 2010). Students who believe in their ability are likely to perform better as well as persist and give more effort (Turner et al., 2009; Weng et al., 2010). Turner et al. (2009) found that students who spend more time studying each week report higher academic self-efficacy. When students spend more time studying, they understand the material and are more confident in their knowledge, increasing chances of success. After an experience of success or mastery of a task, confidence in their ability to succeed in the future increases, and they are likely to continue to put in effort and succeed in the future as well (Turner et al., 2009; Weng et al., 2010). In contrast, students who do not study may feel more stress and anxiety about academic tasks, leading to decreased self-efficacy (Zajacova et al., 2005). However, Turner et al. (2009) examined self-efficacy in the general student population, not in students with disabilities, indicating that more research is needed on this topic with students with disabilities.

## **Self-Efficacy and Social Support**

Self-efficacy, specifically academic self-efficacy, can be impacted by verbal persuasion or support and encouragement from others (Noble, 2011). For example, support may alleviate feelings associated with low self-efficacy (Coffman & Gilligan, 2002). This support includes information from others that let the individual know they possess the skills necessary to complete the task at hand (Noble, 2011). Students gain confidence from those who provide encouragement because they use information from others to define themselves and their abilities, thus increasing their belief that they are able to accomplish a task (Coetzer et al., 2009; Pajares, 2002). However, for students to believe and use what others tell them about themselves, the student has to view the individual providing the encouragement in high esteem (Noble, 2011). Students with a willingness to seek out supports will improve their self-efficacy; therefore, counselors and staff at postsecondary institutions can assist students in understanding and seeking supports when addressing self-efficacy concerns with students (Skinner, 2004; Lundberg et al., 2008).

Jackson (2002) studied self-efficacy beliefs related to learning performance. Specifically, a professor of a course in introductory psychology sent students either an email meant to enhance self-efficacy or a neutral email. Results from the study showed that students who received an email enhancing self-efficacy scored higher on the exam than did students who received a neutral note from the professor (Jackson, 2002). Furthermore, some students who received a neutral note could have found out that other students received a more positive email from the professor, thereby depressing their self-efficacy due to the perceived lack of support from the professor (Jackson, 2002).

Self-efficacy can be improved through social support leading to improved academic performance (Jackson, 2002). This study examined self-efficacy of the general student population, which further indicates a need for research with students with disabilities, self-efficacy, and social supports.

### **Self-Efficacy for Students with Disabilities**

Encouragement from others is important for students with disabilities who are struggling in academics and have low self-efficacy. As members of a minority group with a history of being stigmatized or discriminated against, students with disabilities may have difficulty believing in their capabilities (Coetzer et al., 2009; Palmer & Roessler, 2000). Furthermore, disabilities that impact memory and concentration may make it difficult for students to master tasks that will help them reach their goal (Coetzer et al., 2009). With their performance on mastery tasks hindered, self-efficacy is also negatively affected (Coetzer et al., 2009). Improving self-efficacy for students with disabilities is important because with high self-efficacy, stressors are seen as challenges. Changing the perception from difficulties to challenges can improve retention rates and enrollment for this population (Wessel et al., 2009). Students with disabilities are likely to be successful when they understand that they may have to try harder than other students to achieve their goal, and this understanding comes with an improved belief in their ability (McCleary-Jones, 2008).

According to recent research, some students with learning disabilities assess their self-efficacy and performance incorrectly, which can lead to difficulties in academics. That is, some students with learning disabilities are confident in their ability, even when their performance shows otherwise. Klassen (2008) studied the academic beliefs of



students with learning disabilities and found that participants with learning disabilities had lower self-efficacy than did their peers without disabilities, but were more optimistic about their performance than were their peers without disabilities. For some students, optimism can be a tool used to respond to difficulty. For students with learning disabilities, however, optimism that does not match their capabilities can impact their chances of success as they may be less likely to be sufficiently prepared for class or assignments. Without the proper awareness of strengths and weaknesses, students with disabilities are less likely to use strategies to help them compensate for their impairment. Participants in the Klassen (2008) study were eighth and ninth graders, however, and self-beliefs may be more appropriate at the university level, though more research is needed in this area.

### **Self-Efficacy and Accommodation Use for Students with Disabilities**

Students with disabilities at the postsecondary level may face changes in their self-efficacy. They may arrive on campus with a belief that they can be successful, but they may face stressors that challenge their belief. For example, one of the first tasks required of students with disabilities is requesting accommodations from professors. However, some students may have anxiety and a lack of belief in their ability to request an accommodation, making it less likely for the behavior to occur even though it is necessary (Conyers et al., 1998). Counselors and staff at the school can assist by having discussions with the students and teaching them how to ask for accommodations to prevent a decrease in their self-efficacy (Lundberg et al., 2008).

Self-efficacy is related to accommodation use in that an individual's use of helpful strategies and resources will more likely lead to an increased belief in ability and

success on academic tasks (Coetzer et al., 2009; Pajares, 2002). For example, a student may believe that an academic demand is insurmountable, and they will fail. However, with the right academic accommodation in place, the individual may be able to compensate and increase their belief in their ability (Lindstrom, 2007). The anxiety may still be present, but they feel more capable to do what they need to do to be successful (Conyers et al., 1998). The accommodation can act as a motivational tool (Feldman et al., 2011; Trammell, 2003). In addition, students with high self-efficacy are more likely to choose strategies that allow them to manage academic demands and alleviate academic anxiety (Bandura, 1993; Zajacova et al., 2005). Students with disabilities and high self-efficacy are more likely to use their problems in learning to develop strategies for acquiring the necessary skills and knowledge to succeed at the postsecondary level (Burney, 2008; Skinner, 2004). However, as there is a lack of data on the effectiveness of accommodations, more research is needed to investigate the link between academic self-efficacy, effective accommodation use, and students with disabilities at the postsecondary level.

## **Disability Groups**

### **Accommodation Use among Disability Groups**

As previously noted, academic self-efficacy, accommodations, and social support use factor into the experience students with disabilities have at the postsecondary level. However, there is a paucity of literature on how these elements differ between disability groups. Data do indicate which accommodations are more frequently used according to disability group. For example, accommodating a learning disability when the individual has difficulty organizing writing can be done through the use of editors, spelling and

grammar software, note takers, tape-recorded lectures, and orally answering exams.

However, students with visual impairments can benefit from use of textbooks on tape, test administration with extended time, readers, or tests printed in large print or Braille (Broadbent et al, 2006). Although these accommodations are most often offered to the above-mentioned disability groups, the effectiveness of the accommodation as perceived by the students is less clear (Lindstrom, 2007).

In addition, there may be overlap in recommendations of accommodations as students with visual impairments, learning disabilities, and motor disabilities can all benefit from electronic texts (Wolfe & Lee, 2007). The disability group and the severity of the disability should be taken into consideration when recommending accommodations for students with disabilities (Stodden & Conway, 2003). Trammell (2003) examined accommodations provided to students with attention deficit disorder, students with a learning disability, and students with attention deficit disorder plus a learning disability. Results indicated that accommodations gave a grade boost to students with attention deficit disorder and to students with both a learning disability and attention deficit disorder. The accommodations negatively impacted the grades of students with a learning disability. The differences in course grades between groups were consistent for each type of accommodation examined in the study. The authors suggested that the difference in grades could be due to the accommodation decisions made for each group (Trammell, 2003).

### **Disability Groups and Social Supports**

In addition to academic accommodations, other supports that students with disabilities utilize at the postsecondary level include relationships with college staff,

peers, family, and friends. Research shows that encouragement from other individuals plays an important role in academic success of students with disabilities (Dowrick et al., 2005). For example, students with a traumatic brain injury see family, peers, and educators as crucial for supporting and facilitating success in school (Hux et al., 2010). Similarly, McCleary-Jones (2008) found that students with learning disabilities looked to family, peers, and school staff for understanding and concern. Data showed that this interest of others impacted the experience of having a learning disability by making it easier for the individual to deal with life stressors (McCleary-Jones, 2008). However, data on social support use for different disability groups are still quite limited.

Lippold and Burns (2009) examined social supports of adults with physical disabilities compared to those for adults with intellectual disabilities as individuals with intellectual disabilities have smaller social networks than individuals with physical disabilities. Also, they noted that support for adults with intellectual disabilities came mostly from family and caregivers, while individuals with physical disabilities received more support from friends (Lippold & Burns, 2009). The participants in their study were adults with disabilities, and as a result, it remains unclear whether the differences in supports between disability groups are similar for students with disabilities in postsecondary education. Lastly, a study comparing characteristics of the disability groups of elementary and high school students with disabilities found that families of students with emotional behavioral disabilities provided less encouragement in education than did the families of students with learning disabilities or mild intellectual disabilities (Sabornie, Evans, & Cullinan, 2006). These differences between disability groups may or may not be similar at the postsecondary level.

## **Disability Groups and Academic Self-Efficacy**

With limited literature on disability groups and use of accommodations and social supports, it is difficult to understand the relationship between the use of social supports and self-efficacy for different disabilities. This is made more difficult by the lack of research on whether academic self-efficacy varies according to disability group. Information that could be gathered from the literature shows that students with learning disabilities and individuals with attention deficit disorder have low self-efficacy compared to that of the general student population (Coetzer et al., 2009; Klassen, 2008). This may be due to inherent characteristics of the disorder, such as memory or concentration problems, making it difficult to master tasks. Or, low levels of academic self-efficacy could be the result of fewer social supports and inappropriate use of learning strategies or academic accommodations. However, the data currently do not exist to fully support these conclusions.

## **Academic Success**

### **Accommodations and Academic Success**

One factor that may play a role in academic success for students with disabilities is academic accommodations. Students with disabilities have noted that accommodations are important and could mean the difference between success and failure in school (Skinner, 2004). Available research on this topic does show that students who seek accommodations have higher graduation rates and grade point averages (Salzer et al., 2008). This increase in grade point average is due, in part, to the student's academic resourcefulness or the use of appropriate strategies to manage academic demands (Reed

et al., 2009). In addition, success with accommodations is more likely when the accommodations specifically meet the needs of a student, allowing the student to perform to the best of their ability and have the same educational opportunity as their peers (Salzer et al., 2008).

Students with learning disabilities view testing accommodations as important to success (Foley, 2006). Feldman et al. (2011) found that accommodations for taking a test improved performance for students with learning disabilities compared to taking a test without accommodations. In addition, Lindstrom (2007) found that students with less severe reading disabilities benefited more from untimed conditions than did those with more severe reading disabilities. The individuals with severe reading disabilities, though unable to benefit from the untimed condition, were able to perform better through the use of assistive technology (Lindstrom, 2007). Lastly, Trammell (2003) showed that the grades of students with attention deficit disorder and students with a learning disability plus attention deficit disorder were highest with one accommodation, but grades decreased with additional accommodations.

It is the type of accommodation, not the number of accommodations, that impacts student success (Trammell, 2003). Also, it is the disability group and appropriate accommodation for the particular student that impacts academic success (Stodden & Conway, 2003). Thus, more research is needed on the relationship between disability group, academic accommodations, and academic success. It is also important to keep in mind that each disability group is heterogeneous, and the accommodation must fit the individual, not the disability (Salzer et al., 2008). With this information, school staff is

better informed on how to advise students of and refer students to accommodations that will assist them and fit their individualized needs (Salzer et al., 2008).

### **Social Supports and Academic Success**

Along with academic accommodations, students with disabilities view social supports as important in their postsecondary education success. Research shows that family, friends, teachers, and academic support personnel are crucial to college success (Foley, 2006; Skinner, 2004). Specifically, a study by Graham-Smith and Lafayette (2004) found that students believed the disability service office was a place of security in the sometimes hostile college environment. The students found the disability service office a close-knit support system upon which to rely for academic and personal needs. Students rated a caring and secure place to go to as an element necessary for adjusting and succeeding in college (Graham-Smith & Lafayette, 2004). Furthermore, Troiano et al. (2010) found that students who consistently visited the academic support center had higher grade point averages than those students who did not use the center at all or who visited the center infrequently.

Additional data highlight the importance of private meetings with instructors (Salzer et al., 2008) and encouragement from family compensating for stressful experiences (Lundberg et al., 2008). Research shows that students appreciate others taking an interest in their learning and believe it assists them in their success. On the other hand, without the interest of others, students often feel discouraged, which impacts work and success (Lundberg et al., 2008). In addition, students who work with groups feel more accomplished and successful than those who work alone. The benefits may be twofold; other students may act as a social support and improve academic-self efficacy,

thereby giving students more confidence in their academic abilities and improving their performance (Graham-Smith & Lafayette 2004; Lundberg et al., 2008). As a result, it is reasonable to believe that school counselors and staff working with students to assist them in articulating their need for support will improve their success in academics (Lundberg et al., 2008).

### **Academic Self-Efficacy and Academic Success**

As mentioned previously, social support can improve academic self-efficacy (Lundberg et al., 2008). In a study by Jackson (2002), students in an undergraduate class were randomized into two groups. One group received an email from the professor boosting confidence, and one group did not. The group that received the email from the professor did better on an exam than did the group that did not receive the email. This study shows how social support can improve confidence and, thus, academic performance. In addition, academic self-efficacy has been found to lead to improved academic performance such as high grade point averages (Reed et al., 2009). Students with high academic self-efficacy are more motivated and persist longer at mastering challenging academic tasks (Zajacova et al., 2005). Once the challenge is overcome, the student's confidence is renewed by the evidence that they have what it takes to succeed, which instills a belief in future successes (Turner et al., 2009). On the other hand, students with low self-efficacy are less motivated to persist and continue working hard when a task becomes difficult (Feldman et al., 2011).

Hsieh et al. (2007) examined self-efficacy judgments of the general population of college students and found that students in good academic standing, with a grade point average of 2.0 or higher, judged their self-efficacy to be higher than the perceived



self-efficacy of students who were on academic probation. The results indicate that students on academic probation may avoid seeking help or facing challenging tasks, thus facing the possibility of future failure (Hsieh et al., 2007). Much of the research on this topic has been conducted using the general college student population. To what extent these findings can be applied to students with disabilities at the postsecondary level is unclear. Further clarification is also needed on the role of academic accommodations in the relationship between academic success and academic self-efficacy for this population.

### **Disability Groups and Academic Success**

The goal of students with disabilities who pursue postsecondary education is most likely to graduate and, thereby, have the opportunity for a better future and more independence (Salzer et al., 2008). Although the data indicate the percentage of undergraduate and graduate students who have disabilities as well as the type of disability group(s) reported by students (Raue & Lewis, 2011), research is limited on which disability groups are more or less successful in postsecondary education. However, two studies in the literature examined graduation rates and persistence rates between disability groups. Mamiseishvili and Koch (2011) found that students with orthopedic or physical disabilities, developmental disabilities, brain injuries, and speech and language impairments had the highest rates of withdrawing from school when compared to other disability groups. Wessel et al. (2009) found that students with hidden disabilities had lower graduation rates than students with visibly apparent disabilities. These studies provide data on persistence and graduation rates, but there is no indication as to the cause of the different rates in withdrawing from school for disability groups. Further research is

needed to examine the differences in grade point average and reasons behind withdrawing from school for the different disability groups.

### **Summary**

This chapter presented information on factors affecting academic success of student with disabilities in the postsecondary setting. Academic accommodations, social support, disability groups, and self-efficacy all play a role in student success. With research lacking on all the above-mentioned factors for students with disabilities at the postsecondary level, the present study investigated whether: (a) academic success was related to academic self-efficacy; (b) academic success was related to academic accommodation use; (c) academic success was related to social support use; (d) academic accommodation use, social support use, disability group, or academic self-efficacy predicted academic success; and (e) the variables of academic accommodations, social support use, academic self-efficacy, or academic success differed among disability groups.

## **CHAPTER III**

### **METHODS**

The purpose of this study was to examine academic accommodation use, social support use, academic self-efficacy, and academic success in postsecondary students with disabilities. This chapter describes the methodology used to answer the research questions:

- Q1 Is there a positive relationship between: (a) academic success and use of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy for postsecondary students with disabilities?
- Q2 Do academic accommodation use, social support use, academic self-efficacy, or disability group predict academic success in postsecondary students with disabilities?
- Q3 Are there disability group differences in academic accommodation use, social support use, academic self-efficacy, or academic success?

This study used a survey research design. The data were collected utilizing a questionnaire to answer the research questions. A response rate of 44 participants was determined to be needed for a MANOVA, and a response rate of 85 participants was needed for the multiple regression for a medium effect size of .15, a power level of .80, and a significance level of .05, as determined by the principles described by Cohen (1988).

For Research Question 1, the independent variables were use of academic accommodations, use of social supports, and academic self-efficacy; the dependent

variable was academic success. In Research Question 2, independent variables were academic accommodation use, social support use, academic self-efficacy, and disability group, with the dependent variable of academic success. Lastly, for Research Question 3, the independent variable was disability group, and the dependent variables were academic accommodation use, social support use, academic self-efficacy, and academic success.

### **Participants**

The participants in the study were students recruited at four colleges and universities (a community college and three universities) in Colorado. Postsecondary institutions that participated in the study were chosen due to their willingness to recruit participants. Participants in the study were students with disabilities registered with their school's disability service office and receiving academic accommodations during the semester in which the study was conducted. Participants were recruited through an email sent by their disability service office on behalf of the researcher. Descriptive information on participants will be presented in Chapter IV.

#### **Community College**

According to the community college used in the current study, 20,525 students were enrolled in the fall of 2011. The disability services office worked with 325 students, offering them academic accommodations such as extended time on tests, note takers, assistive technology, interpreters, and textbooks in alternative formats.

#### **Universities**

According to one university in this study, approximately 26,735 students were enrolled at the time of the study, and roughly 1,300 students were registered with the

disability service office. Academic accommodations that are frequently offered at this university include alternative testing, interpreting, note takers, alternative formats, assistive technology, and priority registration. Disability service office personnel also work with the students to solve academic and social issues as well as advocate for the students when necessary. In the second university, 24,000 students were enrolled in 2011, and the director of disability services at this university reported working with approximately 1,200 students. The office provides training and access to assistive technology and works to empower students with disabilities. They provide academic accommodations such as extended test time, readers, scribes, note takers, interpreters, assistive technology, and priority registration. The third university reported 29,884 enrolled students with the disability service office and worked with a reported 1,420 students in the fall of 2012. The disability service office assists students to develop independence and self-advocacy and also provides academic accommodations such as early registration, preferential seating, and recorded lectures.

## **Instruments**

### **Demographic Questionnaire**

Participants were asked to provide information regarding age, gender, ethnicity, year in school, major, disability, and age at onset of disability. Participants were also questioned as to whether or not they were currently on academic probation or if they had ever been on academic probation, and if they were a part-time or full-time student. For additional data on academic accommodations, students were asked whether they had received academic accommodations since the first semester enrolled in college and how

many semesters in total that they had received academic accommodations (see Appendix K).

One of the variables of interest in the present study was disability group. In the survey, participants were instructed to check all disabilities that applied to them from the eight disability groups listed (learning disability, psychiatric impairment, physical impairment, visual impairment, other, traumatic brain injury, developmental disability, and hearing impairment). For data analysis, the eight disability groups were combined into three categories including cognitive-based disabilities (learning disability, attention deficit disorder, traumatic brain injury, and developmental disability), psychiatric disabilities, and disabilities that impact physical functioning (vision impairment, hearing impairment, and physical impairment). An additional category was added for participants who reported identifying with more than one disability group. The data were dummy coded for Research Question 2, which will be explained further in Chapter IV. For Research Question 3, the data were coded and assigned a value: participants who reported only cognitive disabilities (learning disabilities, attention deficit disorder, traumatic brain injury, or developmental disability) were assigned a value of 1; participants who reported only psychiatric disabilities reported were assigned a value of 2 participants who reported only physical disabilities (vision impairment, hearing impairment, physical impairment) were assigned a value of 3; and individuals who reported identifying with more than one disability group were assigned a value of 4. The researcher chose not to categorize the disability group variable into two categories of having a learning disability. The researcher chose to look at the different disability groups to explore the individual experiences of identifying with each disability group.

### ***Academic Accommodation Helpfulness Questionnaire***

One section of the survey examined helpfulness of academic accommodations (see Appendix L). In postsecondary education, the concern is that students with disabilities have academic accommodations that meet the needs of the individual and the situation, whether it is a lecture or assessment (Collins, 2000; Lindstrom, 2007; Stodden et al., 2001). There is a plethora of research on academic accommodations that students with disabilities frequently use (Broadbent et al., 2006), but research on the helpfulness of academic accommodations is lacking (Stodden et al., 2001). In addition, research indicates that the quantity of academic accommodations does little to assist student performance. In fact, Trammell (2003) showed that the grades of students with disabilities were highest with one academic accommodation, and grades decreased with additional academic accommodations.

To gather more research on the benefits of academic accommodations, *The Academic Accommodation Helpfulness Questionnaire* was adapted from a previously established survey (Dziekan, 2003). Permission was given by the original researcher to use and adapt the *College Students with Learning Disabilities Survey*. Questions on helpfulness of academic accommodations were taken from the original survey for use in the present study. Items were answered using a 5-point Likert scale and ranged from *strongly agree* to *strongly disagree*, with the additional option of *not applicable* if the individual was not receiving the academic accommodation. Sample items of academic accommodations on the survey include “Books on tape” and “Extended time on tests/quiet setting for tests.” The researcher added the items “Interpreter” and “Adaptive technology” to the academic accommodation list. From a review of the literature, both

assistive technology and use of interpreters are common academic accommodations assigned at the postsecondary level, and, as a result, it is important to include these items in the survey (Dowrick et al., 2005; Stodden & Dowrick, 2000). Evidence of content appropriateness of the original survey was established by experts in the field of learning disabilities, three professors and four individuals who had been directors of disability services. Internal consistency reliability of scores in a previous study was calculated to be .75 (Dziekan, 2003).

The author of the *College Students with Learning Disabilities Survey* used factor analysis to analyze the survey (Dziekan, 2003). Dziekan (2003) found three factors of students' expectations of academic accommodations. The three factors are Evaluation Alternatives, Education Process, and Perceptual Assistance. Evaluation Alternatives is a factor that included modifications and methods in evaluation. Education Process factor items included items from each step of the educational process, which include the programming stage, instructional stage, and evaluation stage. Lastly, the Perceptual Assistance factor includes items that assist students to overcome processing deficits. The Evaluation Alternatives factor items were used in the current study for the academic accommodation score, as it clearly met the needs of the current study. This score was tallied by finding the mean score of all items.

### ***Use of Social Supports Questionnaire***

Another section of the survey examined the use of social supports (see Appendix M). The focus of the literature on postsecondary social supports looks at the relationships students with disabilities have with their professors, peers, college staff, and family. The literature highlights that it is the quality of available supports that is most important for



positive outcomes for students. These supports increase self-efficacy and act as a buffer against stressors in postsecondary education. The idea of quality supports over quantity of supports is highlighted in research from Lundberg et al. (2008). Their study found that the students who wanted more support looked to individuals who were already part of their social support network, which indicates interest in improved quality of social supports. Their research shows that students may want more interest and encouragement from already existing relationships, rather than looking for other sources of social support (Lundberg et al., 2008).

To gather more data on this topic, the researcher adapted the *Use of Social Supports Questionnaire* from the *Survey of Adult Postsecondary Education Student Characteristics and Perceptions on Academic Support Services Received at Texas Woman's University* (TWU), originally created by Mask (2004). Permission was given by the original creator to use the survey and adapt it for the present study. Evidence of content appropriateness of the original survey was established by four special education professors and the director of disability services at a university. The five individuals were asked for their input regarding instructions, statements, and questions. Internal consistency on the original survey was .78 using Cronbach's alpha (Mask, 2004). Following a review of the literature, the researcher added the survey item, "I go to my academic advisor for help with school problems" to collect more descriptive data. This section of the survey used a 5-point Likert scale, with responses ranging from *strongly agree* to *strongly disagree*.

Mask (2004) also used factor analysis in her study in order to better understand the content of the survey. Survey items were clustered based on research questions. Each

research question was a factor, and factor analysis was conducted on the specific cluster of items for each question. Nine factors were found including Adequate Preparation for Postsecondary Education, Sources of Help for School Problems, Success in Passing College Course Exams, Career Exploration and Guidance During High School, Assessment of Career Aptitude/Interests and Knowledge of Impact on Career Choices, Knowledge of Federal Mandates and Accommodations/Services for Students with Disabilities, Skill Deficits and Accommodation Needs, Most Common Accommodations, and Accommodation Needs are Supported by TWU Faculty (Mask, 2004). In the current study, the mean score of the items in the second factor, Help for School Problems, was used as the social support score in data analysis. The Help for School Problems factor focuses on students seeking help from school or family and community, which is one focus of the current study.

### ***College Academic Self-Efficacy Survey***

The *College Academic Self-Efficacy Survey* (CASES) is a 33-item questionnaire that was created by Owen and Froman (1988). Items include “Understanding difficult passages in textbooks” and “Attending class consistently in a dull course.” Respondents indicated their level of confidence on each activity using a 5-point Likert-type scale where 0 = *Very little confidence*, 1 = *A little confidence*, 2 = *Neutral*, 3 = *A lot of confidence*, and 4 = *Quite a lot of confidence* (see Appendix N). The survey was scored using the mean score of all items. Previous reliability evidence was obtained by 88 psychology students who were administered the questionnaire twice over an eight-week period. Cronbach’s alpha was measured, and internal consistency reliability was found to be .90 and .92 for each testing session, and the test-retest reliability estimate was .85.

Evidence of content appropriateness was obtained by three university faculty members in education and psychology who developed the questionnaire based on frequent academic behaviors of college students. Furthermore, questions were revised based on the suggestions from seven graduate teaching assistants, and the questionnaire was then pilot tested on 93 undergraduate psychology students. Concurrent validity-related evidence, or how well the survey correlates with a previously validated measure, was estimated using frequency of performing each task and enjoyment of each task (both suggested by self-efficacy theory). A sample of 122 students was asked to rate the difficulty of performing the 33 tasks in the instrument. Results showed that easily accomplished items were those with which students had more experience and success, and items that were rated as difficult to accomplish were those at which students had less experience or success, confirming predictions of self-efficacy theory (Owen & Froman, 1988).

There have been additional studies that have used the CASES and found similar reliability values. Ayiku (2005) used the CASES to examine academic self-efficacy among African American male athletes at the collegiate level, and results indicated Cronbach's alpha of .90 for scores on the instrument. Also, Thomas-Spiegel (2006) used the CASES to study the relationship of academic self-efficacy and successful course completion. Reliability of the scores for the participants in this study (community college students) was measured using Cronbach's alpha with an estimate of .91. Mejia Arias (2006) examined the relationship between parent and family support, university support, and academic self-efficacy on academic achievement of Latino college students. Using

the CASES, Cronbach's alpha was measured to be .94. All of the above reliability estimates support the use of this instrument to consistently measure academic self-efficacy among college students.

### **Academic Success Questionnaire**

To evaluate the variable of academic success, students were asked to report their GPA. Data were also collected on how each individual participant defined academic success. Furthermore, participants were asked to respond to items such as, "Based on the above definition, I feel academically successful" as well as "I am satisfied with my academic progress/persistence toward my degree," using a 5-point Likert scale, with responses ranging from *strongly agree* to *strongly disagree* (see Appendix O). This information provided additional descriptive data.

### **Procedures**

Four disability service offices at postsecondary schools granted permission to contact the students with disabilities registered with the office. The researcher obtained permission from the Institutional Review Board (IRB) at the University of Northern Colorado and the IRB at another participating university. The three other disability service offices gave their permission without additional IRB approval needed. The survey was placed online using Survey Monkey. A recruitment email including the hyperlink to the survey was sent to each of the four disability service offices that agreed to send out emails on my behalf in order to keep student identities confidential. The disability service offices then forwarded the email to students with disabilities registered with their office. The recruitment email also contained information regarding an incentive for participating in the study. After completing the survey, students had the option of providing an email

address and having their name put into a drawing for a gift card. For every 50 students who provided their email address, one name was drawn for a \$25 Visa gift card.

The first page of the survey on the Survey Monkey website was the informed consent statement that indicated the purpose of the study. The participants were also informed that their participation was voluntary, their responses would be kept confidential, and any information they provided during the survey would not impact the services they were receiving through their school's disability service office. Both the recruitment email and the first question of the survey informed the students that they qualified to take part in the study only if they were currently receiving academic accommodations. Those who went to the Survey Monkey website and did not meet the criteria were forwarded to a page thanking them for their time and informing them that they did not need to complete the survey instrument. After two weeks, an email reminder was sent out to participating schools to remind students to take the survey if they had not already done so.

### **Data Analysis**

The purpose of this study was to examine academic accommodation use, social support use, academic self-efficacy, and academic success in postsecondary students with disabilities. In the current study the researcher assessed whether: (a) academic success was related to academic self-efficacy; (b) academic success was related to academic accommodation use; (c) academic success was related to social support use; (d) academic accommodation use, social support use, disability group, or academic self-efficacy predicted academic success; and (e) the variables of academic accommodations, social support use, academic self-efficacy, or academic success differed among disability

groups. Preliminary data analysis included examination of descriptive statistics such as measures of central tendency and variability. Pearson correlation coefficients were calculated to determine if there was a positive relationship between: (a) academic success and utilization of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy. Also, multiple linear regression was used to measure whether academic accommodation use, social support use, academic self-efficacy, or disability group predicted academic success in postsecondary students with disabilities. Finally, a multivariate analysis of variance (MANOVA) was used to determine if disability group differences existed in academic accommodation use, social support use, academic self-efficacy, or academic success. Internal consistency reliability was also estimated for scores on all the instruments used in this study using Cronbach's alpha.

### **Research Question 1**

Is there a positive relationship between: (a) academic success and use of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy for postsecondary students with disabilities?

To answer the first question, a mean score was tallied on the CASES.

Accommodation use and social support use scores were calculated by computing the total mean score for accommodation items and total mean score for social support items.

Pearson correlation coefficients were computed to determine if there was a positive relationship between: (a) academic success and utilization of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy. The Pearson correlation coefficient is the most widely used measure of association. It is not impacted by sample size or scale of measurement. The Pearson

correlation coefficient,  $r$ , has a range of values from -1.00 to 1.00, with larger values (positive or negative) indicating more of an association (Tabachnick & Fidell, 2007).

### **Research Question 2**

Do academic accommodation use, social support use, academic self-efficacy, or disability group predict academic success in postsecondary students with disabilities?

A multiple linear regression was utilized to measure whether academic accommodation use, social support use, academic self-efficacy, or disability group predicted academic success in postsecondary students with disabilities. Multiple linear regression was used to predict a score on a criterion variable (i.e., academic success) from several predictor variables (i.e., academic accommodation use, social support use, academic self-efficacy, or disability group). This type of analysis is especially useful when the independent variables are correlated to each other, as in the present study. Multiple linear regression assumes that the relationship between the independent variables and dependent variable is linear, residuals are normally distributed, residual scores (difference in obtained and predicted dependent variable scores) are independent and have equal variance, and the variables in the model are measured without error (Tabachnick & Fidell, 2007).

Standard regression was used in the current study where all variables were added simultaneously to the regression equation. In this type of analysis, each variable is assessed as if it was entered into the equation after every other variable had already been added. That is, standard multiple regression looks at each independent variable in what it uniquely adds to the prediction of the dependent variable (Tabachnick & Fidell, 2007). Since disability group was a categorical variable, the researcher changed them to dummy

variables to perform the regression. Dummy variables are created from categorical variables that are changed into several dichotomous variables (cognitive disability, psychiatric disability, and physical disability with multiple disabilities as the reference variable). This limits the relationships between the dichotomous variables and other variables to linear relationships which make them appropriate to use in a linear analysis (Tabachnick & Fidell, 2007). Additionally, to answer Research Question 2, academic self-efficacy was represented by the mean score of the CASES. Scores for accommodation use and social support use were calculated by computing the total mean score of accommodation items and total mean score of social support items. Lastly, academic success was represented by the reported grade point average.

### **Research Question 3**

Are there disability group differences in academic accommodation use, social support use, academic self-efficacy, or academic success?

Group differences between the variables were analyzed using a MANOVA. A mean score on the CASES was tallied, along with mean scores of accommodation use and social support use items. Academic success was represented by student-reported grade point average. Disability group was represented by values assigned by the researcher based on participant reported disability group(s). Participants who reported only a cognitive disability (learning disabilities, attention deficit disorder, traumatic brain injury, or developmental disability) were assigned a value of 1; participants who reported only a psychiatric disability were assigned a value of 2; participants who reported only a physical disability (vision impairment, hearing impairment, or physical impairment) were assigned a value of 3; and participants who reported identifying with more than one disability group were assigned a value of 4.



A MANOVA was used to answer this question because there were several dependent variables (academic accommodation use, social support use, academic self-efficacy, and academic success) and levels of the independent variable (disability group). Using a MANOVA determined whether the dependent variables varied depending on the level of the independent variable. A MANOVA analysis assumes normal distribution of data, independence of scores, a linear relationship among the dependent variables, and equal variance between groups (Tabachnick & Fidell, 2007).

### **Summary**

Chapter III provided an overview of the methodology of the current study. Characteristics of the sample were noted as well as how the sample was obtained. The survey instruments (Demographic Questionnaire, *Academic Accommodation Helpfulness Questionnaire*, *Use of Social Supports Questionnaire*, *College Academic Self-Efficacy Survey*, and the *Academic Success Questionnaire*) were described, including example items, scales of measure, previous validity, and previous reliability estimates. A detailed explanation was provided of the procedure used that included a description of participant recruitment and necessary criteria to take part in the study. Finally, data analysis procedures were discussed in relation to research questions of the present study.

## **CHAPTER IV**

### **RESULTS**

The purpose of this study was to examine academic accommodation use, social support use, academic self-efficacy, and academic success in postsecondary students with disabilities. This chapter provides descriptive data from the sample and discusses the results of each research question.

#### **Participants**

As stated in Chapter III, the sampling frame for this study was students with disabilities at four colleges and universities in Colorado. Students who were eligible to participate in the study were those who were registered with the disability service office at their college or university and who were currently receiving academic accommodations. One hundred fifty-six participants started the survey, and a total of 110 students fully completed the survey. Data from only completed surveys were used in data analysis.

#### **Participant Characteristics**

The objective in data collection was to obtain information from students who were currently receiving academic accommodations through the disability service office at their college or university. Table 1 provides basic demographic information (gender, age, and ethnicity) of these students. As seen in Table 1, a majority of the respondents

were female (70.0%). Participants ranged from 17 to 75 years of age, with a mean age of 31.4. The highest frequency age category was 20-24 years of age, with 30.9% of the sample indicating they fit into this category. Participants who were 40 years of age or older were the next largest group, with 26.4% of the sample responding in this category, followed by 25-29 (13.6%), 17-19 (11.8%), 30-34 (10.9%), and 35-39 (6.4%). In regard to ethnicity, the respondents were asked to check all ethnicities that applied to them. A majority of the sample (82.7%) identified themselves as Caucasian, followed by Hispanic American (8.2%), Other (7.3%), Native American (4.5%), and African American and Asian American having identical percentages (3.6%). Participants who chose Other were not asked to clarify with a write-in response.

Table 1

*Participant Demographics*

Variable	N	%
Gender		
Male	33	30.0
Female	77	70.0
Age		
17-19	13	11.8
20-24	34	30.9
25-29	15	13.6
30-34	12	10.9
35-39	7	6.4
40+	29	26.4
Ethnicity		
African American	4	3.6
Asian American	4	3.6
Hispanic American	9	8.2
Native American	5	4.5
Caucasian	91	82.7
Other	8	7.3

Table 2 highlights the academic characteristics of the sample. A majority of the sample was sophomores (32.7%) and seniors (30.0%), with the smallest proportion of respondents being graduate students (8.2%). Seventy percent of the sample checked the full-time student option, and 29% indicated they were part-time students. Participant

grade point averages ranged from 1.8 to 4.0, with a mean of 2.92, and with most students (37.3%) reporting a GPA of 3.6 or higher. Lastly, 6.4% were on academic probation at the time they took the survey, with 23.6% of participants having been on academic probation at some point. Areas of study varied in the sample with students indicating majors of: arts (6.4%); business (13.6%); education (7.3%); engineering (4.6%); law (0.9%); liberal arts (1.8%); natural, health, and applied sciences (30.0%); nursing (2.7%); and social and behavioral sciences (20.0%). Only 12.7% of the sample indicated not knowing or being undeclared in their major.

Table 2

*Academic Characteristics of the Sample*

Variable	N	%
Year in school		
Freshman	14	12.7
Sophomore	36	32.7
Junior	18	16.4
Senior	33	30.0
Graduate student	9	8.2
Major		
Arts	7	6.4
Business	15	13.6
Education	8	7.3
Engineering	5	4.5
Law	1	0.9
Liberal Arts	2	1.8
Natural, Health, and Applied Sciences	33	30.0
Nursing	3	2.7
Social and Human Sciences	22	20.0
Undeclared	14	12.7
Student status		
Part-time	32	29.1
Full-time	78	70.9
GPA		
1.6-2.0	6	5.5
2.1-2.5	7	6.4
2.6-3.0	26	23.6
3.1-3.5	30	27.3
3.6-4.0	33	30.0
Unknown	8	7.3
On academic probation		
Yes	7	6.4
No	100	93.6
History of being on academic probation		
Yes	26	23.6
No	84	76.4

One of the variables of interest in the present study was disability group. In the survey, participants were instructed to check all disabilities that applied to them. As a result, 62.7% of the sample indicated that they had a learning disability, followed by psychiatric impairment (25.5%), physical impairment (15.5%), visual impairment (11.8%), other (10.0%), traumatic brain injury (9.1%), developmental disability (7.3%), and hearing impairment (7.3%). Students who chose the option “Other” noted chronic illnesses such as diabetes, HIV/AIDS, and cancer. The eight disability groups were collapsed into four categories (cognitive disability, psychiatric disability, physical disability, and identifying with more than one disability group). Table 3 reports the frequency of the four categories in the sample, with cognitive disabilities reported by 46.4% of the sample, psychiatric disabilities by 10.9%, physical disabilities by 12.7%, and multiple disability groups by 30%.

Table 3

*Collapsed Disability Group Data*

Disability Group	N	%
Cognitive disability (learning disability, attention deficit disorder, traumatic brain injury, developmental disability)	51	46.4
Psychiatric disability	12	10.9
Physical disability (visual impairment, hearing impairment, physical impairment)	14	12.7
Identified with multiple disability groups	33	30.0

Table 4 highlights the descriptive data and internal consistency estimates for scores on each of the questionnaires used in the study. Cronbach alpha values for scores on each scale are at acceptable levels, The *College Academic Self-Efficacy Survey* had a value of .92; the *Use of Social Supports Questionnaire*, .76; the *Academic Accommodation Helpfulness Questionnaire*, .91; and the *Academic Success Questionnaire*, .84. Comparing these results to prior research, Mask (2004) found internal consistency to be .78 for her *Use of Social Supports Questionnaire*, Dziekan's (2003) estimate for the *Academic Accommodation Helpfulness Questionnaire* was .75, and the estimate for the *College Academic Self-Efficacy Survey* was .92 (Owen & Froman, 1988).

Table 4

*Scale Data*

Scale	No. of Items	M	SD	Variance
<i>College Academic Self-Efficacy Survey</i>	33	109.33	21.62	467.28
<i>Use of Social Supports Questionnaire</i>	13	30.34	7.45	55.43
<i>Academic Accommodation Helpfulness Questionnaire</i>	16	72.22	20.29	411.73
<i>Academic Success Questionnaire</i>	4	7.97	3.25	10.58



### **Correlational Analysis**

- Q1 Is there a positive relationship between: (a) academic success and use of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy for postsecondary students with disabilities?

To answer the first research question, a Pearson coefficient was computed to determine if there was a positive relationship between: (a) academic success and utilization of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy. To answer the first question, a mean score was tallied on the CASES. Accommodation use and social support use scores were calculated by computing the total mean score for accommodation items and total mean score for social support items.

As illustrated in Table 5, both academic self-efficacy and utilization of academic accommodations were statistically significantly and positively related to academic success, indicating that students who rated their academic self-efficacy more positively and who used more academic accommodations also tended to report greater academic success. In contrast, use of social support was not significantly related to self-reported academic success.

Table 5

*Pearson Correlation Coefficients*

Accommodation	Academic Success
Academic success	---
Academic self-efficacy	.416**
Social support	-.178
Academic accommodations	.235*

\*\*p < .01 level; \*p < .05 level.

**Multiple Regression Analysis**

Q2 Do academic accommodation use, social support use, academic self-efficacy, or disability group predict academic success in postsecondary students with disabilities?

For Research Question 2, multiple linear regression was chosen to measure whether academic accommodation use, social support use, academic self-efficacy, or disability group predicted academic success in postsecondary students with disabilities. Specifically, standard regression was used in the current study, where all variables were added simultaneously to the regression equation. Moreover, since disability group was a categorical variable, the researcher changed them to dummy variables to perform the regression. Dummy variables are created from a categorical variable (k) that is changed into several (k-1) dichotomous variables. Additionally, academic self-efficacy was represented by the mean score of the CASES. Lastly, accommodation use and social support use scores were calculated by computing the total mean score for accommodation items and total mean score for social support items.

Results displayed in Table 6 show the multiple regression demonstrating that academic self-efficacy was the only predictor to significantly contribute to the model ( $p = .001$ ). These results indicate that participants who reported higher academic self-efficacy were more academically successful than those who reported lower academic self-efficacy. In other words, confidence level was shown to significantly explain grade point average. The other variables of academic accommodation use, social support use, cognitive disability, psychiatric disability, and physical disability did not contribute significantly to the regression equation.

Table 6

*Multiple Regression Results*

Independent variable	Beta-coefficient (B)	Standard Error	Standardized Beta-coefficient ( $\beta$ )	$t$	Sig. ( $p$ )
(Constant)	2.016	.412	--	4.891	<.001
Academic					
accommodation use	.056	.033	.170	1.725	.088
Social support use	-.037	.084	-.046	-.455	.657
Cognitive disability	.022	.117	.020	.185	.854
Psychiatric disability	-.050	.176	-.030	-.285	.776
Physical disability	.032	.174	.019	.184	.855
Academic self-efficacy	.309	.086	.372	3.596	.001

In addition, Table 7 shows the analysis yielded  $R^2 = .200$  which indicates 20% of the variability of academic success was explained by all of the variables in the model.

Furthermore, Table 8 shows the partial and part correlations for each independent variable. Squaring the part correlation is equal to the unique variance of each independent variable on the dependent variable (Tabachnick & Fidell, 2007). Therefore, the unique variance of each independent variable is as follows: academic accommodation use, 2.5%; social support use, <1%; cognitive disability, <1%; psychiatric disability, <1%; physical disability, <1%; and academic self-efficacy, 11%.

Table 7

*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.448 <sup>a</sup>	.200	.150	.5031

a. Predictors: Academic self-efficacy, cognitive disability, psychiatric disability, physical disability, academic accommodation use, social support use.

Table 8

*Part and Partial Correlations of the Independent Variables*

Model	Partial Correlation	Part Correlation	Part Correlation Squared
Constant	--	--	--
Academic accommodation use	.174	.158	.024
Social support use	-.046	-.041	.001
Cognitive disability	.019	.017	<.001
Psychiatric disability	-.029	-.026	<.001
Physical disability	.019	.017	<.001
Academic self-efficacy	.346	.330	.109

**Multivariate Analysis of Variance**

Q3 Are there disability group differences in academic accommodation use, social support use, academic self-efficacy, or academic success?

For Research Question 3, a MANOVA was used to determine if there were disability group differences in the variables of academic accommodation use, social support use, academic success, or academic self-efficacy. To represent academic self-efficacy, the mean score was tallied on the CASES. Accommodation use and social support use scores were calculated by computing the total mean score for accommodation items and total mean score for social support items. Disability group was represented by values assigned by the researcher based on participant reported disability group(s). Participants who reported only a cognitive disability (learning disabilities, attention deficit disorder, traumatic brain injury, or developmental disability) were assigned a

value of 1; reported only a psychiatric disability, assigned a value of 2; reported only a physical disability (vision impairment, hearing impairment, or physical impairment), assigned a value of 3; and individuals who reported identifying with more than one disability group were assigned a value of 4.

A MANOVA was utilized since there were several dependent variables (academic accommodation use, social support use, academic self-efficacy, and academic success) and levels of the independent variable (disability group). Table 9 illustrates the results of the MANOVA. Although Pillai's Trace, Wilks' lambda, Hotelling's Trace, and Roy's Largest Root all test the significance of main effects and interactions in a MANOVA, Wilks' lambda is the most commonly used to determine overall significance when there are more than two groups, as in the current study (Tabachnick & Fidell, 2007). The results of the Wilks' lambda indicate that there are no disability group differences in the variables of social support use, academic accommodation use, academic success, or academic self-efficacy.

Table 9

*Multivariate Test*

Effect		Value	F	Hypothesis df	Error Df	Sig	Observed Power
Disability							
Group	Wilks' Lamda	.846	1.371	12.000	251.638	.180	.683

Lastly, power is the probability of rejecting the null hypothesis. MANOVA is less powerful than ANOVA, and power is decreased with higher correlations among dependent variables. In addition, a small sample size would equate to inadequate power

for the analysis (Tabachnick & Fidell, 2007). Therefore, prior to the current study, using Cohen principles (1988), the researcher determined a power level of .80 for the study. As seen in Table 9, observed power calculated during the analysis was .683 which is a moderate to high power level.

### **Summary**

Chapter IV provided the results of all the data analyses. Descriptive data were provided on participant demographics and academic areas. Cronbach alpha values were also determined for scores on each scale used in the study. All Cronbach alpha values were found to be at acceptable levels. Lastly, analyses to answer each research question were reported. To answer Research Question 1, the researcher computed Pearson correlation coefficients to determine if there was a positive relationship between: (a) academic success and utilization of academic accommodations; (b) academic success and use of social supports; and (c) academic success and academic self-efficacy. The relationship between academic success and academic self-efficacy had a significant positive correlation, while the relationship between academic success and use of social support was not significant. In addition, academic success was found to have a significant positive correlation with utilization of academic accommodations. Research Question 2 used a multiple linear regression to measure whether academic accommodation use, social support use, academic self-efficacy, cognitive disability, psychiatric disability, or physical disability predicted academic success. Results showed that academic self-efficacy significantly predicted academic success, but academic accommodation use, social support use, cognitive disability, psychiatric disability, and physical disability did not. Lastly, a MANOVA was used to determine if there were disability group differences

in the variables of academic accommodation use, social support use, academic success, or academic self-efficacy. Findings showed academic accommodation use, social support use, academic self-efficacy, and academic success did not differ significantly between disability groups.



## **CHAPTER V**

### **DISCUSSION**

Although enrollment numbers of students with disabilities in postsecondary education are on the rise (Hall & Belch, 2000; Mamiseishvili & Koch, 2011), many students with disabilities struggle to graduate (Stodden & Dowrick, 2000). Research shows that some reasons students with disabilities withdraw before completion of a degree are lack of quality disability services (Johnson et al., 2008; Stodden et al., 2001), lack of social support (Conyers et al., 1998; DeWitz et al., 2009), and lack of confidence in scholastic abilities (Palmer & Roessler, 2000). There is a paucity of empirical data that supports these ideas (Feldman et al., 2011; Trammell, 2003), and, as such, this study set out to examine accommodation use, social support, academic self-efficacy, and academic success in postsecondary students with disabilities. The objectives of the current study were to assess whether: (a) academic success was related to academic self-efficacy; (b) academic success was related to academic accommodation use; (c) academic success was related to social support use; (d) academic accommodation use, social support use, disability group, or academic self-efficacy predicted academic success; and (e) the variables of academic accommodations, social support use, academic self-efficacy, or academic success differed among disability groups. This chapter presents a discussion of the research findings, limitations of the study, and suggestions for future research.

## **Discussion of Findings**

Four survey instruments were utilized to examine academic accommodation utilization, social support utilization, academic self-efficacy, and academic success.

Analysis of results is discussed below in relation to each research question.

- Q1 Is there a positive relationship between: (a) academic success and use of academic accommodations; (b) academic success and use of social supports; or (c) academic success and academic self-efficacy for postsecondary students with disabilities?

The first research question was analyzed with a Pearson correlation coefficient with use of academic accommodations, use of social supports, and academic self-efficacy represented by a mean score of corresponding items, and academic success represented by grade point average. Results indicated that the relationship between academic success and academic self-efficacy as well as the relationship between academic success and academic accommodations were found to have significant positive correlations, while the variables of academic success and social support were found to have no significant relationship. These results will be discussed with attention to each separate relationship.

### **Academic Success and Academic Self-Efficacy**

The relationship between academic success and academic self-efficacy was found to be positively correlated. This result is supported by previous research investigating social cognitive theory, which states that an individual's thoughts and feelings will influence their behavior (Bandura, 2004). That is, students that are more confident in their ability to succeed are more likely to work harder and persist, leading to a higher likelihood of success (Lundberg et al., 2008; Turner et al., 2009).

A study by Turner et al. (2009) supports the findings of the present study. These authors examined academic self-efficacy and academic success and found students who spent more time studying reported higher academic self-efficacy, which led to a better understanding of the material and increased chances for success. Additionally, when students succeed, it increases their confidence, and they continue to put forth effort and succeed in the future as well. Other studies have also shown the same relationship between high academic self-efficacy and improved academic performance (Reed et al., 2009). A study by Jackson (2002) examined the impact of an email from a professor boosting confidence, and found students who received the confidence-boosting email did better on an exam than those students who did not receive the email.

The positive relationship between academic self-efficacy and academic success in the current study is encouraging, as some research suggests students with learning disabilities have low academic self-efficacy and low success rates. This lack of confidence in ability may be due to the difficulties the disability creates in completing academic tasks and, thus, having a reduced chance at academic successes (Coetzer et al., 2009).

### **Accommodation Use and Academic Success**

The next relationship of interest in the first research question is beneficial accommodation use and academic success, which was found to be positively correlated. This means that students with disabilities who use more beneficial accommodations are more likely to be academically successful than those students with disabilities who do not use beneficial accommodations. Research shows that students with disabilities have found accommodations to be the difference between success and failure in school

(Skinner, 2004). Accommodations assist students with disabilities by negating the difference in performance due to a disability and allowing students to demonstrate knowledge in a way that fits their need (Ketterlin-Geller & Johnstone, 2006; Ofiesh, 2007).

The data from the current study clearly support this claim when a majority of the sample (88.2%) used extended time/quiet setting for tests and found that accommodation to be helpful (83.6%), and most of the participants (64.6%) in the sample had a GPA of 3.1 or higher. This data is supported by previous research that found students with disabilities who used academic accommodations had higher grade point averages (Salzer et al., 2008) due to the student using appropriate strategies for academic tasks (Reed et al., 2009). Specific to learning disabilities and testing accommodations, Feldman et al. (2011) found that accommodations improved performance for students with disabilities on tests, and Foley (2006) found that students with learning disabilities viewed testing accommodations as necessary for success. Although the students with disabilities from the current sample used only one helpful accommodation, it could still impact success as research states it is not the number of accommodations, but the type that is important (Trammell, 2003).

### **Academic Success and Use of Social Support**

Lastly, the results from the study showed that academic success was not significantly correlated to beneficial social supports. Although some research shows how encouragement from others can increase chances for academic success (Lundberg et al., 2008), other research sheds light on how students with disabilities can be successful without social support from others. For example, a study by Egan and Giuliano (2009)

showed that students with disabilities who used academic accommodations outperformed their peers. The students in the study who used accommodations were stigmatized because of their use of accommodations to outperform their peers (Egan & Giuliano, 2009). Similar to the results of the current study, that study showed that students can be successful while having no peer support.

Students with disabilities in postsecondary education also rely on their families for support, understanding, and interest in their studies (Lundberg et al., 2008). However, a study by Lundberg et al. (2008) showed that, over time, family members provided less support. This change could be due to the student becoming more independent in their studies. Some students with disabilities may feel it necessary to be independent from their families, especially if they face a lack of understanding, perceived negativity, or over protectiveness from family members (Lundberg et al., 2008; Webster, 2004).

The current study points out that students with disabilities relied upon themselves. A reflection of this finding is that 12.7% of the sampled students in this study were in their first year of their postsecondary educational experience, while the remaining 87.3% of the sampled students may have already known what they needed in order to succeed in academics (specific study strategies and accommodations), thus making social support for school problems unnecessary. In addition, considering this same sample split, the majority of the students may have been more confident in their academic abilities, having already adjusted to school tasks and understanding academic behaviors.

However, participants in the sample also noted receiving academic support from disability support services (83.6%), having professors address their accommodations (81.8%), and going to professors for school problems (80.0%). These data may indicate

that the students with disabilities went to the disability service office and their professors regarding accommodations, but once their accommodations were in place, the students relied mainly on themselves. Participants in the current study indicated using helpful accommodations which, as indicated by previous research, could have led to academic success, increased academic self-efficacy, and fewer academic difficulties, thus making it unnecessary to rely as much on others (Skinner, 2004).

Q2 Do accommodation use, social support use, academic self-efficacy, or disability group predict academic success in postsecondary students with disabilities?

Results from Research Question 2 were found using multiple linear regression where accommodation use, social support use, and academic self-efficacy were represented by mean scores for corresponding items, and academic success was represented by grade point average. Since the disability group variable was a categorical variable, it was dummy coded to perform the regression, resulting in several dichotomous variables (cognitive disability, psychiatric disability, physical disability, while multiple disabilities was the reference variable). The variable of academic self-efficacy was found to significantly predict academic success, but the variables of social support use, academic accommodation use, cognitive disability, psychiatric disability, physical disability, and multiple disabilities did not significantly predict academic success.

The multiple regression results indicated that academic accommodation use does not predict academic success. These results are supported by the literature that shows students with disabilities are not successful when they have accommodations that are not tailored to their specific needs (Stodden & Conway, 2003). For example, Lindstrom (2007) found that students with more severe reading disabilities were not as successful

with untimed testing as students with less severe reading disabilities. In another example, Trammell (2003) found that accommodations gave a grade boost to students with both a learning disability and attention deficit disorder and to those students with attention deficit disorder. However, the accommodations negatively impacted the academic success of students with only a learning disability, again showing that accommodation use does not always predict academic success. Lastly, students who are unable to articulate how their disability impacts their learning may not receive the appropriate accommodation that leads to academic success (Ofiesh, 2007).

The multiple linear regression determined that accommodation use did not significantly predict academic success. However, running data frequencies found approximately 83% of participants indicated using extended time/quiet setting for tests, and a majority of participants (64.6%) noted having a GPA of 3.1 or higher. This information may be explained by the additional data that 62.7% of the sample indicated having a learning disability; that is, accommodations may have been provided based on the disability type, not the individual. This is significant because with the data showing accommodation use as not significantly predicting academic success, results may be suggesting that some needs of students with disabilities are not being met, even with provision of accommodations. If the accommodations provided were based on individual need, different accommodations may have been used by the sample and, therefore, accommodations may have shown to more likely predict academic success.

Social support use was not found to significantly predict academic success, which is supported by earlier research. As mentioned previously, although some research indicates that students with disabilities are more successful with support from others

(Dowrick et al., 2005), other research explores how students with disabilities can be academically successful even without social support from others. For example, family is a naturally existing support for students with disabilities, but some family members can become overprotective of students with disabilities (Webster, 2004) or their interest and understanding may diminish over time (Lundberg et al., 2008), leading students with disabilities to rely on themselves in their academics. In addition, when students with disabilities use accommodations and outperform their peers without disabilities, they may be discriminated against even as they perform well (Egan & Giuliano, 2009) resulting again in students with disabilities having to rely on themselves, rather than on others. Lastly, students go to disability service office staff for paperwork establishing accommodations, but the students may feel the office staff is unfriendly and may not want to return if they face difficulties with their accommodations (McCleary-Jones, 2008). Instead, the students may feel that they have to rely on themselves for their success.

The data from the current study support the literature and show students with disabilities in good academic standing who are not relying on others as much as they are relying on themselves. The students in the sample may be substituting social support with other strategies, such as accommodations, that lead to success without encouragement from others. Students with disabilities in the sample indicated going to professors and the disability service office primarily for academic needs. The results of the study may indicate that the support students need is to implement strategies in academics, rather than counseling and reassurance. In addition, only 12.7% of the sample was in their first year. By the second year and beyond, students with disabilities may be more comfortable



with who they are and what they need to do to succeed in postsecondary education without assistance from others.

Results indicated that academic self-efficacy was the only variable to predict academic success. This relationship is supported by the literature and social cognitive theory (Bandura, 2004). For example, social cognitive theory reports that individuals with confidence in their abilities are more likely to persist and give more effort and are, therefore, more likely to succeed than those who do not have confidence (Bandura, 2004). A study by Jackson (2002) showed support of this idea. A teacher sent half of her students a neutral email and half of her students an email intended to increase academic self-efficacy. The results of the study showed that the students who received an email meant to increase self-efficacy performed better than did those students sent a neutral email. In addition, individuals with high self-efficacy view stressors as challenges to be overcome because of the belief in their competency (Coffman & Gilligan, 2002). Confidence in ability can prevent feelings of stress and lead to the success of the individual (Lundberg et al., 2008; Wessel et al., 2009). Lastly, a study by Hux et al. (2010) examined brain injury survivors and found that persistence and determination were essential for achievement in higher education. It was those students who had the confidence to take control of the situation that acted in a way who led to success.

The results from the current study show similar results to previous research investigating academic success and academic self-efficacy. As data from CASES indicates, more than half the sample (56.3%) indicated confidence in taking objective tests, writing papers (50.9), attending class (77.3%), and understanding text (51%), which are the activities students need to do well in order to get good grades. Student-reported

opinion reiterates the same notion, with more than half of the sample reporting feeling confident in getting good grades (55.4%). This could be attributed to the fact that 12.7% of the sample was in their first year of postsecondary education, while the larger percentage of the sample could have gained confidence in their academic abilities each year as they progressed through their postsecondary educational experience.

Lastly, none of the disability groups (cognitive disabilities, psychiatric disabilities, physical disabilities, or multiple disabilities) in this study were found to significantly predict academic success. Disability groups may not lead to success if elements of the disability, such as difficulties with concentration and memory, impact the ability to complete tasks (Coetzer et al., 2009). In addition, disability groups may not lead to academic success due to lack of knowledge and support of faculty. Students with disabilities report insensitivity from faculty members. For example, faculty members were willing to implement only those accommodations that required little work to implement, even though students with disabilities may need more assistance from faculty in order to succeed (Ketterlin-Geller & Johnstone, 2006; McCleary-Jones, 2008). When students perceive faculty as unsupportive, they may not reach out to faculty when they have academic difficulties, thus decreasing their likelihood of success (Lindstrom, 2007).

The results from the current study do not support previous findings, as the current sample was primarily made up of students with disabilities who reported to be in good academic standing. Therefore, disability group may not have predicted academic success because these students reported receiving helpful accommodations, and if students receive appropriate accommodations and services, it may not matter that they have a disability or which disability they have. If students with disabilities are correctly

supported, they are all likely to have academic success. Additionally, with a sample majority indicating the same disability, finding disability group differences in predicting academic success would be difficult when other disability groups are not equally represented in the sample.

Q3 Are there disability group differences in accommodation use, social support use, academic self-efficacy, or academic success?

Analysis of the data for the third research question was completed using a MANOVA. Accommodation use, social support use, and academic self-efficacy scores were computed by finding the mean score of corresponding items. Academic success was represented by grade point average, and disability group was represented by values assigned by the researcher based on participant reported disability group(s).

The results of the MANOVA indicated that accommodation use, social support use, academic self-efficacy, and academic success did not differ between disability groups. A large percentage of the sample (62.7%) indicated having a learning disability, with other disability groups less represented, which is likely a primary reason for the insignificant results. In 2008, the National Center for Education Statistics (NCES) showed one-third of students with disabilities indicated having a learning disability (Raue & Lewis, 2011). With a large majority of the current sample having a learning disability, it is more difficult to find significant differences between disability groups.

Academic accommodation data shows how little responses change among respondents with an average accommodation score of 4.84 with a standard deviation of 1.55. Looking further at the data on accommodations, “Extended time on tests/quiet setting for tests” was the only accommodation used by a majority of the sample (89.1%). With only 62.7% of the sample indicating a learning disability, but 89.1% reporting using

the same accommodation, it would be difficult to determine a difference in accommodation use among disability groups. Additionally, all the other accommodations were reported as not used by at least half of the sample, although research shows accommodating disabilities, such as learning disabilities, can be done with the use of many different accommodations (e.g., use of editors, spelling and grammar software, note takers, tape-recorded lectures, and orally answering exams) (Broadbent et al., 2006). With a large percentage of the sample population listing the same disability and an even larger percentage of them using a single accommodation, results may indicate that schools are providing students with accommodations based on the disability, not individual need (Cawthon & Cole, 2010; Horvath et al., 2005; Kurth & Mellard, 2006; Ofiesh, 2007). If schools were providing accommodations based on the individual need and not the disability, there may have been more reported variability in academic accommodation use, and the results of the data analysis might have changed as a result.

It was also difficult to determine a significant difference in social support use between disability groups. Data failed to show a lack of variation in responses, with social support data showing an average overall score of 2.49 with a standard deviation of .65. Even though the data did not show significant differences in social support use for different disability groups, it is still important to note that the item on the social support questionnaire with the highest frequency of responses was “I rely on myself to solve my own problems,” with 88.2% of the sample showing agreement with this statement. The percentage of the sample that indicated they relied on themselves to solve problems is greater than the percentage of students with a learning disability, indicating that other

disability groups also felt they had to rely on themselves to solve problems, rather than using other supports.

Although these data are concerning, a large percentage of the sample (80.0%) also indicated going to professors for help with school problems and having accommodations addressed by their professors (81.58%) and disability service office staff (83.6%). With so many of the participants in the sample using the same supports, it is difficult to find a significant difference between disability groups. It is reassuring to see school professionals are providing support to students with disabilities to assist them in academic endeavors. These data are in contrast to research that shows faculty members less willing to implement accommodations for students with hidden disabilities (Burgstahler & Moore, 2009), as a majority of the current sample indicated having a hidden disability (Ketterlin-Geller & Johnstone, 2006; Lindstrom, 2007).

Furthermore, there was a lack of significant difference in responses regarding academic self-efficacy in the sample, with an average academic self-efficacy score of 3.31 and a standard deviation of .66 showing a lack of significant difference in scores between participants and disability groups. In addition, 83.6% of the sample indicated they used extended time/quiet setting for tests and found it helpful, thus increasing confidence in their abilities (Coetzer et al., 2009; Pajares, 2002) as suggested by their high academic self-efficacy scores.

Lastly, the average grade point average of the sample was 2.92 with a standard deviation of .55, showing no significant difference in GPA among participants and no significant differences in GPA between disability groups. Sixty-three percent of the sample noted a GPA of 3.1 or greater; most of the participants in the study were in good

academic standing at the time the study was conducted. Although the research does not lend itself to determine differences in grade point average between disability groups, the results do suggest that students with learning disabilities utilize academic accommodations leading to academic success (Skinner, 2004).

### **Limitations**

There are several limitations to the current study. Students that participated in the study were those who responded to a mass email sent by the disability service office staff at their school. Although these students were assured that their responses would in no way impact the services that they were receiving, these students may have responded positively about the supports and services they were receiving for fear that their services would be impacted. Additionally, students were informed that de-identified data would be given to the schools after study completion, but participants might have responded in a socially desirable way to please the disability service office staff and the researcher (Antonak & Livneh, 1988). Social desirability may have led to favorable results if those students who did not finish the survey were those who had more negative experiences with supports and services. Furthermore, students volunteered for this study, which may have led to different results if participation was not voluntary.

Other limitations were the measures used in the current study. Although 142 students responded to the first question, only 110 participants completed the entire survey. The survey was presented as taking 30 minutes to complete; however, some individuals might have taken a longer time to move through the survey and quit because of that time issue. A shorter survey might have led to a higher completion rate. In addition, participants could have been asked to list a primary disability and a secondary

disability. Having participants check all disabilities that applied to them might have allowed a more in-depth analysis. Other limitations of the measures include those regarding validity and reliability. The *Academic Success Questionnaire* was created by the researcher with no pilot testing or way to determine validity or reliability before the study began. Additionally, the CASES reliability was originally determined by 88 psychology students, rather than by students with disabilities, and content validity was based on frequent behaviors of college students; this might have made a difference in the responses of the current study. Lastly, students responded to the survey online which, for some students, may have presented a challenge. Students with some disabilities rely on assistive technology, and without regular access to assistive technology, they may have had difficulty taking the survey. In addition, students may not have had regular access to a computer needed to take the online survey.

Another limitation of the study is that a majority of the sample (62.7%) indicated a learning disability. With most participants having the same disability, the generalizability of the data from this study is limited since students with learning disabilities are not a representation of all students with disabilities and their experiences with accommodations. There may be some innate characteristics of students with learning disabilities that make their responses different from those of other students with other disabilities. Furthermore, the response rate to the study was low, with only 3% of the entire sample completing the survey. With additional participants, other disability groups might have been represented and added information about the experiences of all students with disabilities as well as differences between groups of disabilities.

Data collected in the study were from one semester and one point in time. Students may have responded differently if the survey had been completed at the beginning of the semester or during a more stressful point of the semester. Looking at one point in time limits the data that were collected and does not allow for detailed analysis about what occurred before or after that one point in time. Tracking the same individuals over time in a longitudinal study would negate any effect age, ethnicity, or other characteristics have on the data and cohort effects that cross-sectional research does not show. Collecting data from students at a point during each semester or each year may provide more valid information, as opposed to asking students to recall experiences from all previous years or semesters in school. However, a cross-sectional study limits the possibility of participants withdrawing from a study more than does a longitudinal study that is conducted over years (Gall et al., 2007).

### **Implications for Future Research**

Insights and limitations from the current study have implications for future research. Future researchers may seek out students with disabilities for a study without going through a disability service office. With this strategy, researchers may be more confident in the honesty of participant responses, and students may feel more assured that their responses are kept confidential from the disability service office. Seeking out students with disabilities to be part of a study, the researcher also may have an ability to create a sample of students with disabilities with each disability group equally represented, thus providing findings that are generalizable to a larger population. Many of the individuals in the present study listed more than one disability. Obtaining data about a primary disability, or disability that the individual feels impacts them the most, and then



gathering information about secondary disabilities would make categorizing individuals into disability groups easier in order to better understand group differences.

Each area of focus in the current study could be studied independently as a qualitative study. Research methods that go beyond collecting quantitative data may provide a clearer picture of how students feel about the supports and services they are receiving. A qualitative study may further investigate the nature of what students find specifically useful about the supports and services they receive. With data collected in a qualitative study, a history could be created about the positive and negative experiences of a student with a disability accessing services and supports in postsecondary education. Gathering information about previous experiences as well as present experiences allows for examination of more than just one moment in time, thus providing insight into what services and supports the student has tried and found useful (Thoma & Getzel, 2005). Information on useful supports and services can also be investigated through future quantitative research (e.g., having students with disabilities indicate supports and services received over time and rating the helpfulness of each).

Lastly, future research could investigate students on academic probation as well as those students with disabilities who are not registered with the disability service office in order to understand their viewpoints of accommodations, supports, and/or barriers to use. Hsieh et al. (2007) found students on academic probation may avoid seeking help, thus leading to future failures. Is this accurate for most students with disabilities on academic probation or for those students with disabilities on campus who are not registered with the disability service office? Do these students not ask for assistance because they do not want to disclose a disability (Ketterlin-Geller & Johnstone, 2006;

Webster, 2004), do not realize they have a right to accommodations (Palmer & Roessler, 2000; Rehfuss & Quillin, 2005), are unaware that services or a disability service office exists on campus (Cawthon & Cole, 2010; Dowrick et al., 2005; Salzer et al., 2008), or want to be independent and successful without accommodations (Broadbent, Dorow, & Fisch, 2006; Ketterlin-Geller & Johnstone, 2006; Rehfuss & Quillin, 2005)? More data are needed to answer these and other important questions that will impact success for students with disabilities in postsecondary education.

### **Summary**

This chapter provided analysis and interpretation of results for each research question. The positive relationships found between academic success and academic self-efficacy as well as academic accommodations and academic success are supported by previous research (Jackson, 2002; Lundberg et al., 2008; Salzer et al., 2008; Skinner, 2004; Turner et al., 2009). Moreover, although previous research shows support from others as improving academic self-efficacy (Coffman & Gilligan, 2002; Lundberg et al., 2008), some studies (Egan & Giuliano, 2009; Lundberg et al., 2008) support the insignificant relationship between academic success and social support that was found in the current study. A high percentage of participants (88.2%) indicated they rely on themselves to solve school problems; this is concerning if students are not relying on family or peers for support that can act as a buffer for the stress and anxiety faced in postsecondary education (Lundberg et al., 2008), if the feeling of isolation is a main reason many students list as the reason for withdrawing from school (Belch, 2004; Cawthon & Cole, 2010; Mamiseishvili & Koch, 2011).

Academic self-efficacy was found to predict academic success in the current study, which is supported by previous research (Jackson, 2002; Lundberg et al., 2008; Reed et al., 2009; Turner et al., 2009). However, social support use, cognitive disability, physical disability, psychiatric disability, and accommodation use were not found to significantly predict academic success. These findings are also supported by previous research (Coetzer et al., 2009; Egan & Giuliano, 2009; McCleary-Jones, 2008

Lastly, academic accommodation use, social support use, academic self-efficacy, and academic success were examined for disability group differences. No significant disability group differences were found, which is likely due to 62.7% of the sample having the same disability. This shows a limitation of the current research and suggests future research must provide representative samples of all disability groups.

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**APPENDIX A**

**INSTITUTIONAL REVIEW BOARD AT THE  
UNIVERSITY OF NORTHERN COLORADO  
APPROVAL TO CONDUCT RESEARCH**



UNIVERSITY of  
NORTHERN COLORADO



*Institutional Review Board*

DATE: September 11, 2012

TO: Stefanie Morissette

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [370461-2] Academic accommodations, social supports, and self-efficacy:  
Predictors of academic success for postsecondary students with disabilities.

SUBMISSION TYPE: Amendment/Modification

ACTION: VERIFICATION OF EXEMPT STATUS

DECISION DATE: September 7, 2012

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB verifies that this project is EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

Dr. Stellino thanks you for the revisions and wishes you all the best with your research.

If you have any questions, please contact Sherry May at 970-351-1910 or [Sherry.May@unco.edu](mailto:Sherry.May@unco.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

**APPENDIX B**

**INSTITUTIONAL REVIEW BOARD AT FRONT  
RANGE COMMUNITY COLLEGE APPROVAL  
TO CONDUCT RESARCH**



August 20, 2012

TO: Stefanie Morissette

FROM: FRCC IRB (chair Monica Geist, Ph.D.)

RE: *Academic Accommodations, Social Supports, and Self-Efficacy: Predictors of Academic Success for Post-secondary Students with Disabilities*

The above referenced prospectus has been reviewed for compliance with HHS guidelines for ethical principles in human subjects research. The decision of the Institutional Review Board is that the project is approved.

A handwritten signature in cursive script that reads "Monica Geist".

\_\_\_\_\_  
Signature of Chair

8/20/12

\_\_\_\_\_  
Date

**APPENDIX C**

**METROPOLITAN STATE UNIVERSITY OF  
DENVER APPROVAL TO  
CONDUCT RESEARCH**

8/21/12

RE: University of Northern Colorado Dissertation Assistance

**RE: University of Northern Colorado Dissertation Assistance**

Sullivan, Gregory [sullivag@mscd.edu]

**Sent:** Tuesday, July 10, 2012 1:53 PM**To:** Stefanie Morissette

I am giving permission to allow Stefanie Morissette to anonymously collect data from a survey sent to students with disabilities registered with our office.

Sláinte,  
Greg Sullivan  
Director, Access Center  
Auraria Library, Suite 116  
*Academic and Student Affairs* Division  
Metropolitan State University of Denver  
303-556-8387  
[www.mscd.edu/access](http://www.mscd.edu/access)



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**APPENDIX D**  
**COLORADO STATE UNIVERSITY APPROVAL**  
**TO CONDUCT RESEARCH**

# Colorado State University

Resources for Disabled Students

100 General Services Building • 8002 Campus Delivery • Fort Collins, Colorado 80523-8002  
Phone: (970) 491-6385 • FAX: (970) 491-3457 • rds.colostate.edu

---

Date: July 20, 2012

To: Institutional Review Board

From: Rosemary Kreston, Director, Resources for Disabled Students



Re: Stefanie Morissette Research

I have reviewed Ms. Morissette's research methods and have agreed to send out information to students with disabilities enrolled at Colorado State University to solicit their participation in completing a survey regarding their accommodative process.

Students will not be identified to Ms. Morissette as I will be responsible for contacting these students through an email that will indicate the purpose of the research and how students may choose to participate.

Please let me know if you have any further questions as to how this process will be conducted.

**APPENDIX E**

**UNIVERSITY OF COLORADO BOULDER  
APPROVAL TO CONDUCT RESEARCH**



8/21/12

RE: UNC Student Seeking Dissertation Assistance

**RE: UNC Student Seeking Dissertation Assistance**

Cynthia Catherine Donahue [cindy.donahue@Colorado.EDU]

**Sent:** Monday, August 13, 2012 7:09 PM**To:** Stefanie Morissette

Hello Stephanie Morissette,

You have permission to send a survey to this office, which will in turn, send the survey to our students with disabilities. They will be invited to participate in your research study and be part of the data you are collecting for your dissertation.

Cindy Donahue, Director

Disability Services

University of Colorado Boulder

N202 Center for Community

Boulder CO 80309

303-492-5614

303-492-5601 fax

[www.colorado.edu/disabilityservices](http://www.colorado.edu/disabilityservices)

**APPENDIX F**  
**INFORMATIONAL EMAIL TO SCHOOLS**

Hello

My name is Stefanie Morissette and I am a doctoral student at the University of Northern Colorado. I am contacting you to ask if you would assist me in my dissertation study. I received your name from Ida Dilwood at UCCS and Candice Alder at Meeting the Challenge at the Rocky Mountain ADA Center referred me as well.

My study is looking at accommodations and supports that students with disabilities use at the postsecondary level. I want to get the insights from the students themselves and therefore students who wish to partake in my study would go online to survey monkey and fill out a questionnaire. Students that are eligible for my study are those that are signed up with disability services at their schools and are currently receiving accommodations through the office. I plan to collect my data in the Fall of 2012.

What is your role? To keep the confidentiality of your students, I am asking disability service offices to send an email drafted by me (explaining the study, providing the link to survey monkey, including the consent form) to those students that are registered and receiving accommodations. In this way, I have no knowledge of who the students in my study are and as disability office staff you are able to identify those students that fit the criteria for the study.

The benefits to having your students complete my study are numerous. The data collected provides information on what students feel assist them in being successful at the postsecondary level, data which does not abundantly exist in the literature at this point. As a school participating in my study, you will be given the data I collected at the end of the study, where I will tease out the information provided by your students as well as provide data from students participating in my study at other schools.

If you are interested in assisting me, I can send you my questionnaires so you will know exactly what I am asking your students. Lastly, if you do plan on assisting me, the UNC IRB requires that I submit a letter from you acknowledging that you give me permission to use your students in my study.

If you have any questions please do not hesitate to contact me by email at [mori7401@bears.unco.edu](mailto:mori7401@bears.unco.edu) or by phone at 508-728-7721.

Thank you

Stefanie Morissette

**APPENDIX G**  
**PARTICIPANT RECRUITMENT EMAIL**

Hello!

My name is Stefanie Morissette, and I am a student at the University of Northern Colorado. You are invited to participate in a research study entitled Academic accommodations, social supports, and self-efficacy: Predictors of academic success for postsecondary students with disabilities.

This is an online survey investigating experiences with academic accommodations, social supports, and self-efficacy. There are 53 questions, and it will take approximately 30 minutes to complete. I will take every precaution to keep information strictly confidential. Participation is voluntary. You may decide not to participate in this study, and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled.

As a thank you for your participation, you have the option of providing your email address for a chance to win a 25 dollar Visa gift card.

If you would like to participate please follow the link to the online survey

<https://www.surveymonkey.com/s/mori7401>

Your participation is greatly appreciated!

Sincerely,

Stefanie Morissette  
Doctoral Student  
Human Rehabilitative Services  
School of Human Sciences  
University of Northern Colorado

**APPENDIX H**  
**CONSENT FORM**

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH  
UNIVERSITY OF NORTHERN COLORADO

Project Title: Academic accommodations, social supports, and self-efficacy: Predictors of academic success for postsecondary students with disabilities.

Researcher: Stefanie Morissette, Doctoral Student, School of Human Sciences  
Phone Number: 508-728-7721 E-mail: [mori7401@bears.unco.edu](mailto:mori7401@bears.unco.edu)

Faculty Research Advisor: Dr. Jill Bezyak, Assistant Professor, School of Human Science  
E-mail: [jill.bezyak@unco.edu](mailto:jill.bezyak@unco.edu)

I am researching how students with disabilities view academic accommodations, social supports, and self-efficacy at the college and university level. You are asked to participate in an online survey regarding questions on use of accommodations and social supports, and academic self-efficacy and your responses will be used to improve services to students with disabilities at the college and university level.

The online survey contains five sections: demographics, accommodation use, social support use, academic success, and academic self-efficacy. It will take approximately 30 minutes to complete. Demographic information collected will include age, gender, ethnicity, year in school, major, disability, and age at onset of disability. Data on academic accommodations will be collected regarding how many semesters of accommodations you have received, and rating the helpfulness of each accommodation currently being received. Social supports will be similarly rated by indicating which social supports you currently use and helpfulness of those supports. Academic success will be evaluated through reported GPA and rating how successful you feel and how satisfied you are with progress toward your degree. Lastly, academic self-efficacy data will be collected through rating level of confidence toward academic tasks such as understanding difficult passages in textbooks.

To participate in the survey, you must be registered with the disability office and currently receiving academic accommodations. I will take every precaution to keep information strictly confidential. Survey data will be kept on a flash drive and locked in a file cabinet on the University of Northern Colorado campus. At no time will individuals other than myself or my advisor have access to your responses.

Risks to you are minimal. Your responses on the survey will not impact the services you receive from the disability office. The benefits include opportunities to provide information about how students feel about services received, which will influence future policies and services.

Upon completion of the survey, you have the option of providing your email address for a chance to win a gift card as a thank you for your participation.

Participation is voluntary. You may decide not to participate in this study, and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please complete the questionnaire if you would like to participate in this research. By completing the questionnaire, you will give us permission for your participation.

You may keep this form for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado, Greeley, CO 80639; 970-351-2161.



**APPENDIX I**

**PERMISSION TO USE AND ADAPT THE COLLEGE  
STUDENTS WITH LEARNING  
DISABILITIES SURVEY**

1/22/13

RE: Dissertation Questionnaire

**RE: Dissertation Questionnaire**

Dziekan, Kathryn [kdziekan@nmhu.edu]

**Sent:** Thursday, June 23, 2011 1:09 AM**To:** Stefanie Morissette

Hello Stefanie:

Good to hear from you. Yes, I would be honored to have you use the questionnaire that I created from my dissertation. The questionnaire was piloted by professionals in the field for its reliability and validity. If you have the dissertation it is discussed in it. I was and have been working on publishing it and hope it can be done someday. Maybe after you complete your dissertation you would like to collaborate on an article.

The best email to get a hold of me is at dr.dziekan@gmail.com I hope this helps it is an exciting process and best wishes on your dissertation.

Sincerely,

Dr. Kathryn Dziekan  
Associate Professor  
New Mexico Highlands University  
505-891-6928

**APPENDIX J**

**PERMISSION TO USE AND ADAPT THE SURVEY OF  
ADULT POSTSECONDARY EDUCATION STUDENT  
CHARACTERISTICS AND PERCEPTIONS  
ON ACADEMIC SUPPORT SERVICES  
RECEIVED AT TEXAS WOMAN'S  
UNIVERSITY**

1/22/13

Re: Dissertation Questionnaire

**Re: Dissertation Questionnaire**

Paige R. Mask [maskp@sfasu.edu]

**Sent:** Wednesday, August 03, 2011 10:04 AM**To:** Stefanie Morissette

Hi Stefanie,

Yes, you are welcome to use my survey. Please let me see your revised copy of the survey - I always looking for ways to improve :-)! Good luck on your research!

Respectfully,

Paige Mask

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**APPENDIX K**  
**DEMOGRAPHIC QUESTIONNAIRE**

Demographic Questionnaire
Gender
Male
Female
Age_____
Ethnicity (check all that apply)
African American
Asian American
Hispanic American
Native American
Caucasian
Other
School
Colorado State University
Front Range Community College
Metro State University of Denver
University of Colorado Boulder
Year in School
Freshman
Sophomore
Junior
Senior
Graduate Student
What is your major?
Are you currently on academic probation?
Yes
No
If yes why?
Have you ever been on academic probation?
Yes
No
If yes, why?

Are you a part time student or full time student? _____
Disability (check all that apply)
Vision Impairment
Hearing Impairment
Physical Impairment
Learning Disability
Psychiatric Impairment
Traumatic Brain Injury
Developmental Disability
Other (please specify) _____
What age were you at the initial onset of this disability? _____
Have you used academic accommodations since your first semester of college? Y/N
How many semesters in total have you used academic accommodations? (Attending classes in summer counts as one semester). ____

**APPENDIX L**

**ACADEMIC ACCOMMODATION HELPFULNESS  
QUESTIONNAIRE**



Are you currently receiving academic accommodations?
Yes
No (if NO please stop here)

Academic Accommodation Helpfulness Questionnaire						
Please rate how much you agree that each accommodation is helpful. Please mark all applicable responses.						
	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I am not receiving this accommodation
Interpreter						
Note taker						
Access to instructor's notes						
Alternative format for handouts (large print, Braille, etc.)						
Tape recorded lectures						
Tutor services						
Books on tape						

Alternative format for tests (large print, Braille, computer use, etc)						
Extended time on tests/quiet setting for tests						
Reader for tests/assignments						
Scribe for tests						
Calculator for tests						
Alternative answers to tests (multiple choice instead of essay)						
Additional time to complete assignments						
Alternative format for assignments (oral response instead of written)						
Adaptive technology (Dragon, Jaws, Zoomtext, electronic textbook)						

**APPENDIX M**  
**USE OF SOCIAL SUPPORTS QUESTIONNAIRE**

Use of Social Supports Questionnaire					
Please indicate your level of agreement with each statement.					
	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My requested accommodation(s) have been addressed by my professors.					
I go to my professor when I have a problem in class.					
I have sought academic support from the disability office.					
I go to the disability office for help with school problems.					
I go to the counseling center for help with problems.					
I have supports within the community that help me with my school problems.					
I go to my friends for help with school problems.					
I go to my family members for help with school problems.					
I rely on myself to solve my own problems.					

I do not want to be labeled as a student with a disability.					
I have joined or formed study groups with students in my classes.					
My academic needs are being met through accommodations from the disability office.					
I go to my academic advisor for help with school problems.					

**APPENDIX N**  
**COLLEGE ACADEMIC SELF-EFFICACY SURVEY**  
**(CASES)**

## College Academic Self-Efficacy Survey

How much confidence do you have about doing each of the behaviors listed below? Mark the numbers that best represent your confidence.

- 0=Very little confidence
- 1=A little confidence
- 2=Neutral
- 3=A lot of confidence
- 4=Quite a lot of confidence

1. Taking well-organized notes during a lecture.
2. Participating in a class discussion.
3. Answering a question in a large class.
4. Answering a question in a small class.
5. Taking objective tests (multiple choice, T/F, matching).
6. Taking essay tests.
7. Writing a high quality term paper.
8. Listening carefully during a lecture on a difficulty topic.
9. Tutoring another student.
10. Explaining a concept to another student.
11. Asking a professor in class to review a concept you don't understand.
12. Earning good marks in most courses.
13. Studying enough to understand content thoroughly.
14. Running for student government office.
15. Participating in extracurricular events (sports, clubs).
16. Making professors respect you.
17. Attending class regularly.
18. Attending class consistently in a dull course.
19. Making a professor think you're paying attention in class.
20. Understanding most ideas you read in your tests.
21. Understanding most ideas presented in class.
22. Performing simple math computations.
23. Using a computer.
24. Mastering most content in a math course.
25. Talking to a professor privately to get to know him or her.
26. Relating course content to material in other courses.
27. Challenging a professor's opinion in class.
28. Applying lecture content to a laboratory session.
29. Making good use of the library.
30. Getting good grades.
31. Spreading out studying instead of cramming.
32. Understanding difficult passages in textbooks.
33. Mastering content in a course you're not interest in.

**APPENDIX O**  
**ACADEMIC SUCCESS QUESTIONNAIRE**



Academic Success Questionnaire					
What is your definition of academic success? _____					
Please rate your level of agreement with each statement based on your definition of academic success.					
	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
I feel academically successful.					
Accommodations have aided me in my pursuit of academic success.					
Please rate level of agreement with each statement.					
	Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly Disagree
I am satisfied with my academic progress from semester to semester and year to year.					
Academic accommodations have influenced my academic progress.					
Current GPA _____					